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HYGEIA

THE HEALTH MAGAZINE

PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION

OCTOBER, 1930

25 CENTS

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HYGEIA

THE HEALTH MAGAZINE

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TABLE OF CONTENTS

COVER DESIGN
Charles Vernon Samsel — PAGE

THE HAZARD OF SPORT 904
GROWING OLD HAPPILY 905
Clifford B. Farr
OUR ANTIQUATED CORONER SYSTEM 908
Oscar T. Schultz
WARM WATER HEALING 913
Edith Reeves Solenberger
THAT ZEST FOR FOOD 916
Rachel Ash
HOW CLEAN IS YOUR TOWN? 918
Ines Stearns Macaulay
SETTIN' IT DOWN FOR THE STATE 921
Lucretia Penny
MAKING THE MOST OF MEDICINE BALL 924
Minnie M. Martin
CHINA'S FAMINE IS WORST IN ITS HISTORY 926
ORIGINS OF GREEK MEDICINE 927
Edmund Andrews

PAGE

SIMPLE LESSONS IN HUMAN ANATOMY—LESSON XV., CONT., CENTRAL NERVOUS SYSTEM, BRAIN AND SPINAL CORD 931
B. C. H. Harvey
UNDERWEIGHT CHILDREN IN SEATTLE 937
Walter W. Davis
U. S. MEDICAL SCHOOLS HAVE HIGH STANDARDS 940
HEALTH PURSUITS IN PICTURES 941
A SYNCOPATED HEALTH TRIAL 944
Hazel McGee Bowman
WHEN TOMMY SQUIRREL LED THE RACE 946
Jennie MacMaster
HEALTH AND THE SCHOOL 949
Edited by J. Mace Andress
NEW BOOKS ON HEALTH 954
QUESTIONS AND ANSWERS 955

Contributors to This Issue

DR. CLIFFORD B. FARR, who has written helpful articles on mental hygiene for HYGEIA at various times, is director of laboratories at the institute for mental hygiene of a large hospital in the East.

A pressing problem that must eventually come before the public for settlement is presented by DR. OSCAR T. SCHULTZ, author of several articles in recent issues of HYGEIA.

DR. RACHEL ASH again takes up a perennial problem of parents—how to make children enjoy the right kind of foods. LUCRETIA PENNY'S amusing sketch suggests that registrars of vital statistics earn their stipends.

MRS. INES STEARNS MACAULAY offers some food for thought in her comparison of the cleanest European cities with cities of the same rank in the United States. MRS. MACAULAY lives in Great Neck, L. I.

MRS. EDITH REEVES SOLENBERGER has a deep interest in problems of the crippled, which she evinces by serving as volunteer chairman of an important committee in the International Society for Crippled Children. MINNIE M. MARTIN writes enthusiastically of medicine ball as played in Tampa, Fla.

DR. EDMUND ANDREWS is a surgeon with a flair for medical history. A more complete discussion of this topic appears in the current Bulletin of the Society of Medical History.

DR. B. C. H. HARVEY, the anatomist, continues to reveal and explain the fearful and wonderful manner in which the human body is put together. WALTER W. DAVIS is supervisor of hygiene in the public schools of Seattle.

HAZEL MCGEE BOWMAN wrote the "Syncopated Health Trial" for a girls' club of Odon, Ind., and since its première there it has been presented by several similar organizations with marked success. Lastly, JENNIE MACMASTER'S name will be remembered from frequent appearances in the children's department of HYGEIA in the past. MISS MACMASTER, a registered nurse, is bringing out a book of children's stories with sketches by the artist who has illustrated her health stories in HYGEIA.

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The Hazard of Sport

AN INVESTIGATION made in 1928 by Dr. Louis I. Dublin of the Metropolitan Life Insurance Company showed that college men have on the whole an expectation of life appreciably above that of men in general; that men who graduate from small colleges show a lower mortality rate than graduates of larger universities and colleges, and that athletes, particularly those who have won their letters in athletics, have a much higher mortality rate than other college graduates. A group of men with high scholarship seem to outlive a group of athletes and all graduates of a contemporary period. According to the evidence accumulated by Dr. Dublin, it is not the men or women with the best physique during early life that live the longest. In the matter of longevity, those who have spent much of their time in the library and in the laboratory come out best.

The reasons for the longevity of the library and laboratory inhabitant as contrasted with the person who circulates in the wide open spaces, on the gridiron, on the tennis court, or behind the oars, is probably the lessened stress placed on the vital tissues by the former group. Persons of intellectual superiority are not necessarily weaklings. They are likely to eat proper food, to indulge reasonably in exercise and in rest, to realize the value of fresh air, of pure water and the hygienic life. As far as concerns physical strain, however, they are likely to avoid it.

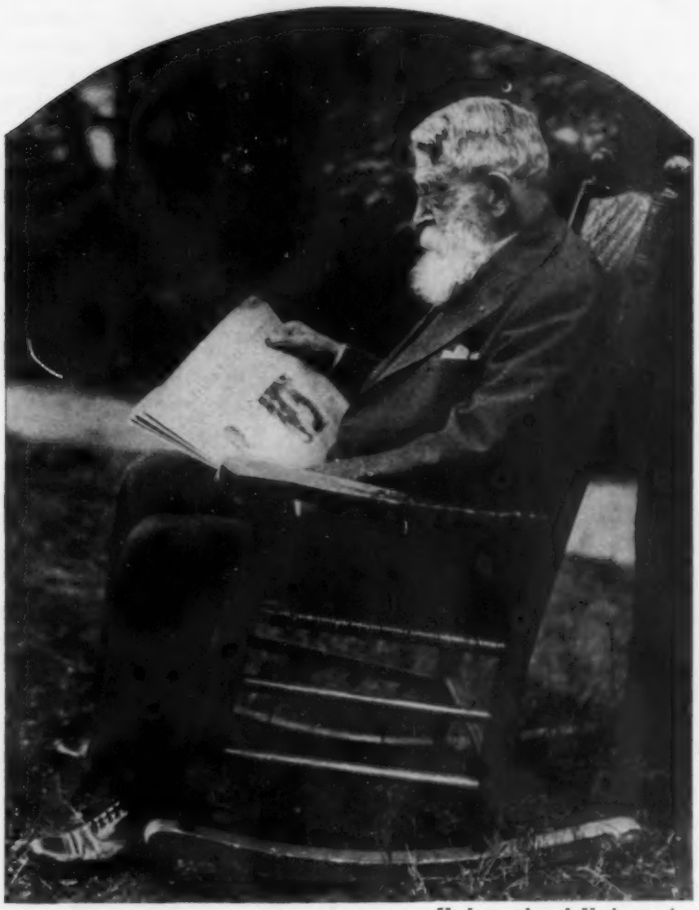
IN ASSOCIATION with the furor created by charges of commercialism in college athletics last year the Carnegie Foundation for the Advancement of Teaching undertook a study of athletic training and of the accidents occurring in sport in twenty-two universities and colleges representing the various sections of the United States. The records of almost 44,000 students were studied. It was found that there had been 1,320 serious accidents and injuries during the year among these men. The accidents and injuries included sprains, dislocations, concussion, fractures, collapses and internal injuries.

The hazards of football are so well known that they are constantly reflected in humorous columns and in accident statistics. Proof of this is shown by the fact that 694 of the 1,320 serious accidents were due to football, only 166 were due to baseball, 130 to basketball, 80 to wrestling, 74 to boxing and 73 to track and field athletics. That football is much more hazardous than basketball is revealed in the fact that 649 football injuries occurred among 5,400 football players, whereas there were only 130 basketball injuries among 9,626 basketball players. The chief hazard in football is, of course, associated with major intercollegiate contests. According to the figures, intercollegiate football is three times as hazardous as class football. Twelve out of every 100 college football players received dangerous injuries during the season.

IN THIS connection it is perhaps interesting to find that a committee of German surgeons, organized to investigate the dangers of rapier duels, report that mountain climbing, swimming and football are more dangerous than the duels. It should be pointed out, of course, that the hazards of football are accidental, whereas a cut by a saber is a result of a definite attempt of one person to injure another. One of the saddest aspects of the hazards associated with college football, and indeed with other college athletics, is the fact that the "win at any cost" policy causes coaches to permit men to play who are not fitted to enter a contest or, when injured, are not fitted to continue. In some instances, men who are not in a proper condition to play are permitted to enter games and are removed only after complete exhaustion. Again and again the player who is injured on the field is permitted to take part in three or four subsequent plays before a substitute is sent in.

The policy that has been mentioned must in the end prove hazardous to the health and life of the individual concerned. Even when the football team has an official surgeon constantly at the field, the surgeon, in the enthusiasm of the moment, will permit the player with an injured shoulder, a cut eyelid or a sprained muscle to be sent back on the field on the chance that no further injury will occur. The price is too high to pay for the victory. University audiences have exalted football to the point at which victory must be had at any price. The spectacle of great athletes, crippled for life or dying at an early age because of a strain that might have been avoided, is not nearly as inspiring as the spectacle of a heroic figure dragging himself in agony across the goal line. The audience forgets the twinges of pain and the results of strain and degeneration that remain to torture the athlete for many years.

HOW TO KEEP MENTALLY FIT AS THE YEARS ADVANCE



Underwood and Underwood

Growing Old Happily

By Clifford B. Farr

AFTER the age of 60, the conventional limit of middle life, the functional and emotional instability which may have marked the previous fifteen years no longer gives rise to difficulties of adjustment. Under favorable circumstances this long stressful time of involution is likely to be followed by a period of quiet contentment which may stretch out for several decades. Some favoring factors are: good heredity; sound physical health and unimpaired senses; satisfactory social environment, and economic independence and security. Fortunate individuals at this age period have usually satisfied the three main instinctive urges stressed by the psychologists of the modern school; namely, those that tend respectively to the establishment of the home and family, to self-realization and attainment, and to satisfactory social relations with one's fellows.

Classical writers and their eighteenth century admirers in England and America loved to write of a happy old age spent in simple rural surroundings and free from striving and responsibility. It was then that one was supposed to enjoy the fruits of a well stored mind and to busy oneself with pet avocations for which an earlier, busier period left no leisure. Opposed to this sensible Epicurean philosophy is the modern, and typically American, point of view, which, basing itself on duty and service, stresses carrying on to the end of life and dying in the harness or dropping in the traces.

While advanced life has undeniable advantages, the other side of the picture cannot well be ignored. At 60 or 70, or a little later in those of unusually robust constitution, it is inevitable that a certain degree of physical and mental deterioration will show itself. Within limits this is entirely normal and any individual immunity to this common fate is merely temporary. The span of human life and still more of physical and mental efficiency can probably never be extended beyond the utmost limits already attainable. Nor would it be desirable. Dean Swift in his "Voyage to Laputa" has given a painful, but fortunately fanciful, description of immortality without immunity from bodily and mental decay. He describes, in his sardonic but realistic way, the deplorable condition of his imaginary Struldbrugs, or immortals, after a century or two of hopeless existence.

From a practical standpoint the uniformity with which physical and mental changes take place is of the greatest and most comforting

significance. In the fortunate majority, loss of physical strength either precedes any mental change or the two proceed concurrently. Both physical and mental changes in aged persons are largely due to organic factors. Nevertheless, there is an element of functional adjustment or maladjustment which may modify the picture so essentially that mental hygiene may be said to have a large place. If we can accept our various disabilities in a philosophic spirit a useful degree of compensation is possible. Horace Walpole, referring to Swift's description, remarks, "Poor man! the turbulence of his own temper, and the apprehension of his own decay, made him conceive [of advanced life as] a miserable condition; on the contrary, it is almost a gay one, when one can be sensible of it and of all its enjoyments."

Underwood and Underwood

The moral qualities revealed in the face often make the old more beautiful than the young.

Assessing the physical disabilities, we note varying degrees of general debility and failure of particular organs which, too much dwelt upon, may become unnecessary mental, as well as unavoidable physical, handicaps. There is also a gradual impairment of the traditionally accepted five senses, which is of importance. The hackneyed quotation from Shakespeare, "sans teeth" to "sans everything," is a summary of these losses at the extreme.

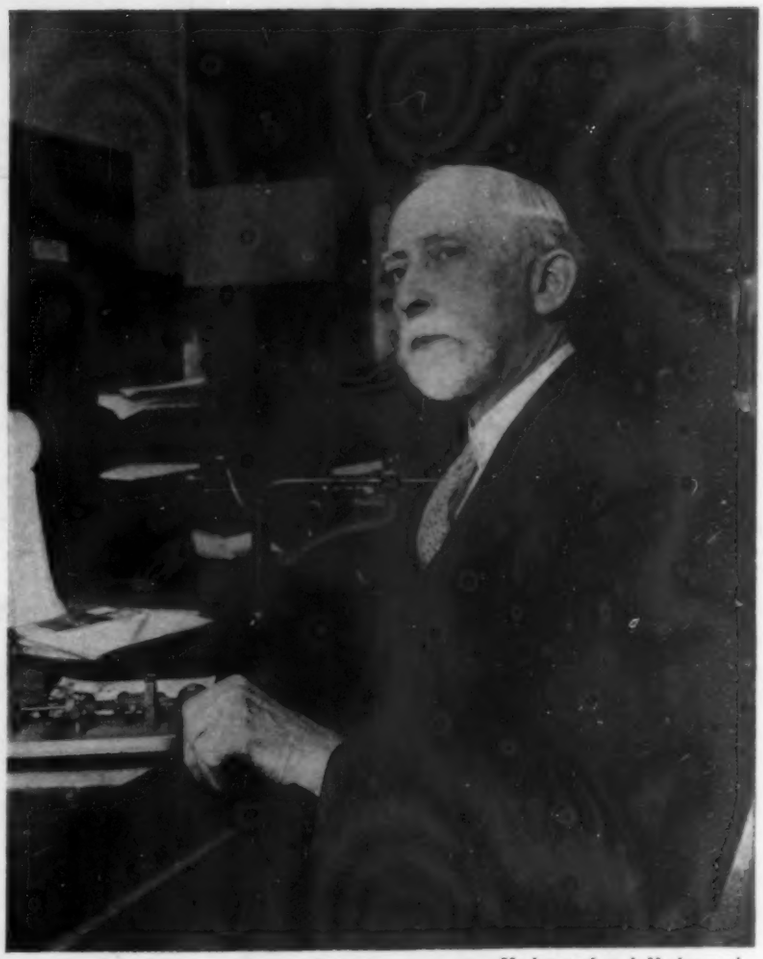
From a strictly mental aspect there is a series of changes some of which may be enumerated here: narrowing of interests, less elastic comprehension, sluggish thought, obstinate adherence to routine, failure of recent memory, poor attention, a tendency to suspiciousness or miserliness, apathy or irritability and minor degrees of depression. These somewhat lugubrious items, in their full development, represent for the most part far advanced terminal conditions. Nevertheless, almost all persons in advanced life have one or more of these physical, sensory or mental handicaps and must learn to circumvent them or to accept them as normal and adjust themselves accordingly; otherwise they may lead to great unhappiness and depression.

Adjustment may be general and special. Two general types of adjustment to age may be equally successful, depending on circumstances and individual character and temperament. Thus, the ideal elderly person of a former generation (e. g., Walpole) calmly accepted the limitations of his age and availed himself of its advantages. He regulated his life accordingly in dress, social diversions and even in the expression of emotions and ideas. He thereby gained greatly in dignity and authority and reaped the consequent respect with which experience of life and superior judgment naturally and justly endowed him. Whitman, alluding doubtless to such moral qualities revealed in the face, says of women, "The young women are beautiful but the old are more beautiful than the young." Alas, persons of this elder type, now fast dis-

appearing, tended at times to exemplify some of the unlovely characteristics of age such as undue conservatism, narrowness of view, adherence to routine and obstinacy.

Another attitude toward age, or rather to its drawbacks, is to disregard it as far as possible; to dress and deport oneself as if oblivious to gray hairs and wrinkles; consciously to cultivate youthful society, new interests, fresh points of view; and on the physical side to keep as active as possible. The unlovely side of this adjustment, all too prominent at the present time, is an inappropriateness of dress, bearing and action which in many cases constitutes a caricature of age. Common sense should dictate the proper admixture of these opposing points of view, as both in pure culture tend to become ridiculous.

Adjustment to physical and sensory handicaps is in many cases very satisfactory. Vision, the most important of our senses, is so susceptible to improvement by artificial aids that relatively few persons are seriously handicapped; even cataract can, for all practical purposes, be cured by operation and glasses. Hearing is unfortunately far less susceptible to improvement though much may be done early by local treatment and something later on by special training and the use of instruments. Loss of hearing affords perhaps the best example of adjustment through effort. A certain number of persons by use of artificial aids but more particularly by increased attention and cultivation of lip-reading, can almost completely compensate for this disability. Others reach a lower adjustment by a fatalistic resignation to what they regard as inevitable. Still others become bitter, depressed, envious.



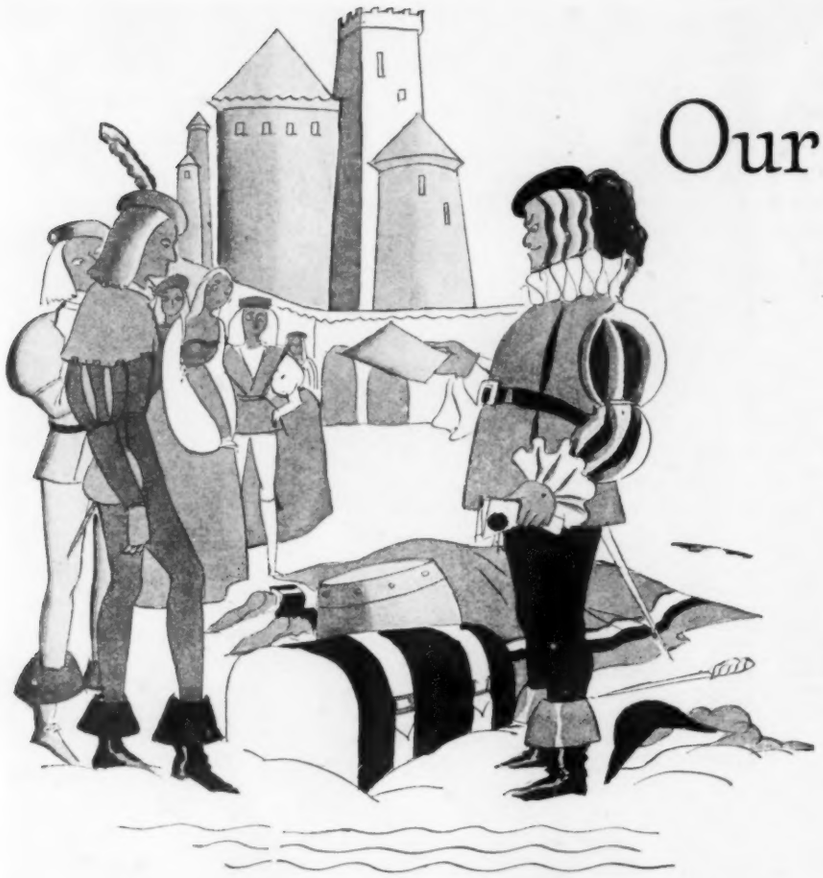
Underwood and Underwood

Happiness often depends on security of employment. This member of the Old-Time Telegraphers' Historical Association has worked more than fifty years at the telegraph keys.

A similar adaptation to mental defects is also useful. Loss of memory may be taken as an example. Elderly persons do not have the ready verbal, almost automatic memory of youth. On the other hand, they lack the heedlessness and irresponsibility of youth; they are not, or need not be, ashamed of using mechanical aids of which so many are now available—and, if their lives have been varied and full, they have a richness of associations, often tinged with emotions, that aids or supplements memory.

Of the environmental factors that conduce to mental health at this period the most important are in the economic field, favorable factors being security of employment and certainty of maintenance when the period of disability or retirement is reached. In partially socialized countries such as England and Denmark a more satisfactory solution of these problems has been reached than in this more individualistic country, whether at too great sacrifice of liberty and economic efficiency is a debatable question. Our own attempts at social legislation are of such a patchwork character that the laws have frequently led to lack of employment of older men and women because employers feared that they might become burdensome charges.

My rather sketchy treatment of this important subject, which fully treated would fill a fat volume, has, I hope, been sufficient to bring out the fact that advanced life is under favorable conditions of physical and mental health and normal average environment not a period of undue mental hazards. On the contrary, it is one to which we tend, because of our experience with life, to make the most successful personal adjustment. Mental hygiene, per se, is therefore not useless and presumptuous at this period of life but is frequently consciously employed by the individuals concerned and needs no outside help or interference. Not rarely, however, advice may be helpful, especially to those who take too depressive a view of life.



The early coroner safeguarded for the crown the forfeited property of felons, treasure-trove and valuables found on the unidentified and unclaimed dead.

Our *Antiquated*

UNDER the American system of government the pursuit and the holding of office have become, to a large degree, the work of the professional politician. Theoretically, the primary and the secret ballot permit the citizen to express his preference and to put into office those best qualified to hold office. Practically, the control of the electorate over its elected officials is often rendered negative through lack of interest in matters political. Such is the usual state of affairs until public interest is aroused through gross maladministration or through the obvious greed of the professional politician.

When the office is one of relative obscurity politically, the qualifications of its aspirants may receive scant attention, even from the politician. When the office, in addition to being obscure, is one that has to do with duties little understood by the public, it tends to run along at a low level of mediocrity until the public conscience is aroused by some great malfeasance.

Such an obscure office in the American governmental system is that of coroner. The reasons for its existence and the nature of its duties are little understood by the public. Hence, although the duties of the office, especially in large cities, are of the greatest and most direct concern to the general public, those duties are likely to be poorly performed. Such poor performance is not necessarily the fault of the man who happens to hold the office. It is probably safe to say that he himself does not clearly understand the nature of his own duties. In every state it would require much litigation and many court decisions to define the powers and duties of the coroner. The fault lies not so much with the coroner himself as with the basic laws underlying his office. There have been and are good coroners; but they have been and are such in spite of, and not because of, the laws relating to their office. It is to be understood that what is here said refers to the office and not to its incumbent.

In our governmental system, the office of coroner is an old one. The settling of the original colonies was largely by those who came from England. Our laws, therefore, are largely English in origin. The coroner's office was transplanted by the colonists from England, where it has a history that can be traced back with certainty to the time of Henry I, who became king of England in 1100. The office has such virtues as may be inherent in antiquity.

The name of the office comes from a Latin word, which might be more literally translated crowner than coroner. In those early days he was an officer of the crown, appointed by the king to safeguard such revenues as might fall to the king. These included the forfeited property of felons, treasure-trove, the wreckage of ships, and such valuables as might be found on the bodies of unidentified and unclaimed dead. It was from this rite of search of unknown dead that there grew the duty of investigating deaths whose cause was unknown or might be due to violence, a duty that in modern times has become the most important one of the office.

In England today there are coroners of counties, coroners of boroughs, and coroners of the

CORONER SYSTEM

By
Oscar T. Schultz

City of London, English law recognizing that the duties of the office assume increasing importance with increasing concentration of population. The office brought to this country in the early colonial days was that of the rural county coroner. In spite of the great increase in the population of the United States since the settling of the colonies, and in spite of the condensation of population into cities of large size, the laws relating to the office in this country have undergone little or no change that might better fit the office to meet the problems presented by increased, concentrated population.

In the meantime the British parliament has made important revisions of the English coroner's law, with the aim of making the office better able to cope with changing conditions. In England the office is an appointive one, the tenure is for life or during good behavior, provision is made for retirement under pension, and the coroner is required to be either a lawyer or a physician. In this country the office is an elective one, the term is usually four years, reelection must be sought, and in most states no qualifications for the office are set by law.

What are the duties of the coroner in the United States? Until some appalling accident, like a train wreck or fire that has caused many deaths, or some particularly atrocious murder brings him into the light of newspaper publicity, the coroner usually attracts no attention. The primary function of the office is the investigation of deaths into which a suspicion of criminality may enter. In this respect, the office is part of the machinery of criminal justice. It is one of the agencies through which society seeks to protect itself against crime. This function is one of no mean importance in large cities, where crimes against the person demand attention, not only because of their increasing number, but also because of their greater variety.

In addition to his investigation of deaths in which there may be an element of criminality, the coroner also examines into all the circumstances bearing upon death by accident. In both homicidal and accidental deaths, the coroner's investigation is at the same time medical and legal in character. He must determine the exact cause of death, which is usually not possible except through thorough postmortem examination. If the cause of death is apparently obvious, such as a bullet wound, a careful autopsy may still be necessary to exclude other causes of death, the possibility of whose unconfirmed

In one state the coroner is charged by law with the responsibility of preventing the illegal sale of intoxicating liquors within three miles of a county fair, a duty theoretically ended by the adoption of the eighteenth amendment.

existence, if presented to a jury, might lead to the freeing of a guilty criminal. The coroner's findings form the basis upon which the prosecuting attorney must build his case for presentation to judge and jury. To the latter the coroner must present his findings in such manner as to leave no doubt as to the cause of death.

The coroner's medical duties require a high order of scientific training and intelligence that few possess. The few who do possess such training are those who have devoted themselves intensively to the problems of legal medicine. In his legal or judicial capacity, he is authorized to hold inquests and to examine witnesses under oath. The aim of these activities is to ascertain facts that may aid in the apprehension or conviction of a criminal or in establishing legal responsibility in cases of accidental death.

Legal Findings May Be Worthless

It is apparent that a high degree of specialized training and ability in two widely different professions are demanded of the coroner's office. Since in most states no professional or other qualifications whatever are required of the incumbent of the office, it must be equally apparent that the work of the office must suffer in both its medical and legal aspects. The medical investigation of the cause of death is often inadequately and unscientifically carried out, and not infrequently is influenced by political considerations. As legal evidence, the findings of the coroner may be quite worthless. The legal investigation that the coroner makes is often not only futile, but actually perversive of justice, in that it may reveal facts that should be presented only to the prosecuting attorney and the grand jury. The premature presentation of important facts to the usual type of coroner's jury, with the publicity that such facts are given by the newspapers, often results in the disappearance or covering up of witnesses whose testimony is essential in the later trial of the accused.

How useless and actually detrimental to the work of criminal justice the activities of the coroner's office may be has been forcibly expressed by Joseph DuVivier, a former assistant prosecuting attorney of New York City, who spoke as follows of the work done by the coroner's office in that city before the office was abolished:

"A dispassionate study of the office leads one to the inevitable conclusion that it is an institution of government wholly unsuited to the needs of the present day. It is obviously expensive and clearly inefficient. In some cases it is positively dangerous to thus entrust untrained men with important work. . . .

"The coroner does nothing that must not be done over again. No reliance can be placed on anything that he has done, nor can he be trusted to do anything right. Every case in which there may be criminal responsibility must be watched. The body of the deceased is barely cold before the experienced prosecutor begins to guard against the probable mistakes of the coroner."

But deaths that are unmistakably homicidal or accidental are not the only ones in which the office of coroner functions. If death is supposedly due to suicide, the coroner must investigate, because what appears to be suicide may be murder. He must make inquiry into the circumstances surrounding the deaths of persons unattended by a legally licensed physician at the time of death, since the element of criminality may enter into such deaths and since, in the absence of a physician, no one other than the coroner may sign the death certificate.

The filing of an acceptable death certificate is a necessary prerequisite to obtaining a permit for the proper disposal of the dead human body. Deaths in which the department of vital statistics or the department of health may question the cause of death as given on the death certificate are referred to the coroner for confirmation.

If the state has a workmen's compensation act or a criminal negligence law, the duties of the coroner in determining the liability for compensation or damages in case of death may be of the greatest importance to surviving relatives.

High Order of Scientific Ability Required

So far as the work of the coroner's office relates to the determination of the cause of death, a high order of scientific ability is required if the public is to receive the service to which it is entitled. In sparsely settled rural communities, like those of the original colonies to which the office was transplanted from the rural counties of England, the office might remain the obscure one that it is, although even such communities deserve proper service when the occasion arises.

In densely populated urban communities, the magnitude of the work that should be done by a properly functioning coroner's office may be judged from the work done by the medical examiner's office of New York City in 1925. During the year there were 71,864 deaths in the city. In 13,353, investigation by the medical examiner was necessary. Of these 5,581 were violent deaths and 112 were criminal abortions. In 4,062 of the deaths, action by the district attorney was required. In 6,692 of the total cases investigated, death was determined by the medical examiner to have been due to natural causes, removing in these cases any element of suspicion of criminality or any element of doubt as to the true cause of death.

Our forefathers apparently feared that the coroner would not have enough work to keep him busy. In addition to assigning to his office the duties noted above, which require scientific ability and legal acumen if the duties are to be

The coroner may be a physician, a lawyer or an undertaker, who is usually also something of a politician, but usually the coroner is just a politician.

properly performed, the office has in many states been given extraneous duties that bear no relation to the important ones of the determination and verification of the cause of death. Statutory provisions in a number of states make of the coroner a sort of supernumerary sheriff, and in other states a public health official or a prison doctor. In one state he is charged by law with the responsibility of preventing the illegal sale of intoxicating liquors within three miles of a county fair, a duty that was theoretically ended by the adoption of the eighteenth constitutional amendment. The duty nevertheless still remains on the statute books, as do many other extraneous and antiquated provisions relating to the office.

The Office Is Medieval

In practically every state and every jurisdiction that makes use of the coroner's office as part of its civic machinery, the office functions inadequately and incompetently. That this is the case is due to a number of reasons. The duties of the office are usually not sharply defined by the statute or constitutional provision that established the office. The laws creating the office were adopted before increase and growth of population had introduced the many perplexing problems that confront criminal justice today. In most states the original laws have undergone no revision that might adapt the office to modern needs, even if such adaptation were possible.

The office was an antiquated one when it was transplanted to this country and it has become progressively more antiquated and medieval with the passage of time. It combines medical and legal duties that no single person could hope to perform adequately or even to supervise intelligently. No professional qualifications are required by law of the incumbent of the office. The coroner may be a physician or a lawyer or an undertaker, who is usually also something of a politician, but usually the coroner is just a politician.

Coroner May Be Good Despite System

Of the office of coroner, the National Research Council, as the result of a survey made in 1927, has reported as follows: "Our own investigation into the conduct of the coroner's office in the communities selected for study, as well as the previous reports from other localities, give clear evidence that even under the best of conditions the work demanded of the coroner is improperly done. The faults are inherent in the system, and are not necessarily those of the individual who may happen to function as coroner. The satisfactory coroner is such in spite of, and not because of, the system under which he works; if to the faults of the system are added those of an inefficient official, then the results are lamentable and subversive of justice."

If the coroner's office is to be abolished, how are its duties to be performed? First of all, by a complete separation of the legal and medical work at present carried on by the office. In every state, the legal machinery for taking over the legal duties of the office already exists. The medical work requires the creation of a new office. The organization of such an office must be such as to permit it to function unhampered in the scientific work required of it. It must serve the public impartially in the work of law and order. Its work must be of such a character that, when presented to an unbiased court, it will help to free him who is unjustly accused of crime and to convict him who is guilty. It must be an appointive rather than an elective office. It should be under civil service. Can such an office be devised to fit the needs of the American commonwealth? The answer has already been given by a few communities.

In 1877, Massachusetts, recognizing the inadequacies of the coroner's office, abolished the office entirely, transferred the legal duties to already existing legal agencies, and created the office of medical examiner for carrying on the

medical work previously done by the coroner. It is a fact of singular significance that the New England states, to which the office of coroner was first brought from England, soon followed the lead of Massachusetts and abolished the coroner's office. With few exceptions the newer states, which established the office of coroner at a later period than did the New England states, have tenaciously retained the ancient office.

In 1917, New York City took the same forward step that Massachusetts had taken forty years previously, but carried it still further in some of its details. As a result, the office of chief medical examiner of New York City is today the outstanding example of the service that such an office can render to the public, if the latter will only realize that it is entitled to better service than it can possibly receive from any coroner's office. In 1926, New Jersey made the adoption of the medical examiner system optional with the two counties of the first class, and it has been adopted by the county of Sussex, in which Newark is situated.

Advantages of Medical Examiner System

For cities, with their more densely congested populations and their more numerous and more complicated criminal problems, the advantages of the medical examiner system over the coroner system have been amply demonstrated by the work of the medical examiner in Boston, New York City and Newark. The medical examiner system is in use in the rural districts of the New England states, but its advantages over the rural county coroner are not as manifest as in the cities. Experts who will devote their whole time to the duties of the office cannot be induced to take positions as medical examiners in the rural districts, even if funds were available for the payment of adequate salaries for experts. This is because the county forms the unit of the rural medical examiner district. The boundaries of such districts should disregard county lines. The size of the medical examiner districts of the rural parts of the state should be governed by population, incidence of crime, and accessibility of the parts of the district by automobile travel.

Crime and its prevention, detection and punishment present problems of ever increasing complexity and seriousness in the United States. These problems can be intelligently solved only by the application of modern science to criminal justice. The average criminal of today probably has a better knowledge of the practical application of certain sciences to his nefarious needs than has the average coroner or policeman of the application of science to the detection of crime.

The prevention of crime requires the study of the juvenile delinquent and of the subnormal adult by the competent student of abnormal psychology. The proof of crime and its presentation to judge and jury demand the expert services of the trained physician, who can call to his aid the sciences of microscopy, pathology, bacteriology, immunology, toxicology and chemistry. The apprehension and identification of the criminal require that the police shall have the benefit of such aid as science may be able to give. For the adequate punishment of the criminal, his criminal responsibility and the reliability of witnesses must be determined by the unbiased psychiatrist. Law needs to be modernized to the extent that it may make use of the aid that more exact sciences may render.

We Lag Far Behind Europe

We in this country may well take pride in the share that American medicine has had in the prevention and cure of disease and in the lowering of death rates from disease. But in the one branch of medical science known as forensic, or legal, medicine, in that union of law and medical science that is so necessary in the administration of criminal justice, this country lags far behind the countries of Europe. There the institute of legal medicine is an integral part of the governmental machinery of criminal justice.

When the antiquated coroner's office is replaced by that of medical examiner, and the latter and the courts can call upon scientific institutes of legal medicine for aid, then the danger of violence to life and limb will be greatly reduced in this country, and the crime rate will be more nearly comparable to that of European countries than it is at present. The National Research Council's report on "The Coroner and the Medical Examiner," after having contrasted the offices of coroner and medical examiner, speaks of the latter and of possible future developments as follows: "It (the office of medical examiner) is so much better than any coroner's office in the United States that it points the way for the future. The widespread adoption of the medical examiner system, properly supported financially and aided by the establishment of scientifically conducted medicolegal institutes, would quickly raise forensic medicine to a plane so much higher than its present level, that we would soon look back upon present conditions with a feeling of astonishment that conditions so intolerable had been so long endured."

The medical and legal professions have from time to time made studies of the workings of the coroner's office. But the functions of the office do not concern these professions to so great a degree as they do the general public. It is the latter that is entitled to intelligent service in matters relating to criminal justice, accidents and industrial compensation. The public will receive the service to which it is entitled only when those who keep the office in existence by their votes realize that adequate service cannot be rendered by the coroner's office.

A rambling, old-fashioned inn is the main building of the Warm Springs Foundation.

Warm Water Healing

DOWN in Warm Springs, Ga., a quiet old-time resort frequented by southern families, is a modern center for hydrotherapeutic treatment of infantile paralysis. It takes its name from powerful springs of water that have a temperature of 89 F. the year round. The water is rich in minerals, odorless and blue. The springs pour forth at the rate of 1,800 gallons per minute from one of the foothills of the Appalachians in the plateau country of central Georgia, where the elevation above sea level varies from 1,000 to 1,250 feet.

Whether seeking health or recreation, the visitor enjoys the beauty of the surroundings—tall trees, flowering laurel, holly and mistletoe, pine-scented air, many hours of sunshine and no great extremes of temperature.

The Cherokee Indians made the first footpaths to Warm Springs, pioneer settlers broadened them to trails, and railway and concrete highways followed. The resort is easily reached by train or motor car from Atlanta, 75 miles away. It is 1,000 miles from New York, 900 miles from Chicago and 700 miles from St. Louis.

By Edith Reeves Solenberger

The fact that special exercises to restore or improve the function of muscles weakened by poliomyelitis can be best given under warm water has been demonstrated recently in several orthopedic hospitals, notably the Hospital School for crippled children in Los Angeles. A few public schools built especially for crippled children, including the Spalding School in Chicago and the Dowling School in Minneapolis, have swimming pools in which the crippled pupils are given some muscle training under water.

The Georgia Warm Springs Foundation is believed to be the first agency in America to offer physiotherapy under warm water to patients of all ages who do not need hospital care. Nobody goes to the Warm Springs Sanatorium until after the active stage of his poliomyelitis is behind him. The patients at the resort are suffering from the paralytic aftereffects but have no traces of the disease itself. They are as incapable of giving poliomyelitis to visiting relatives or friends as a person deafened as the result of scarlet fever in previous years would be of transmitting that disease.

The Foundation trustees do not wish to develop a hospital or the usual type of sanatorium. The patients accepted are in good general health but with some muscles paralyzed in varying degrees and needing restorative exercises. Such exercises can be given profitably with the patient on a table in a treatment room; they are given with more sure and more rapidly beneficial results when the tables are placed below the surface of warm water.

Like so many needed health movements, the Warm Springs Foundation had a personal origin. Franklin D. Roosevelt, now governor of New York, was disabled by poliomyelitis in 1921. Three years later, in 1924, he chanced to hear of a young man in a similar condition who had spent three summers at Warm Springs, Ga. The young man had at first been assisted to the pool in a practically helpless condition. He soon found that he could move under the warm water the limbs that were helpless outside the water. Persistent exercises so increased his muscular strength that by the end of the third summer he was able to discard braces and walk with the help of one cane.

Mr. Roosevelt went to Warm Springs to try the pools and benefited materially. A few other patients came as a result of the newspaper publicity given his visits. He was so much impressed by their improvement as well as his own that he decided to promote an organization that would attract larger numbers and to place the work under expert supervision.

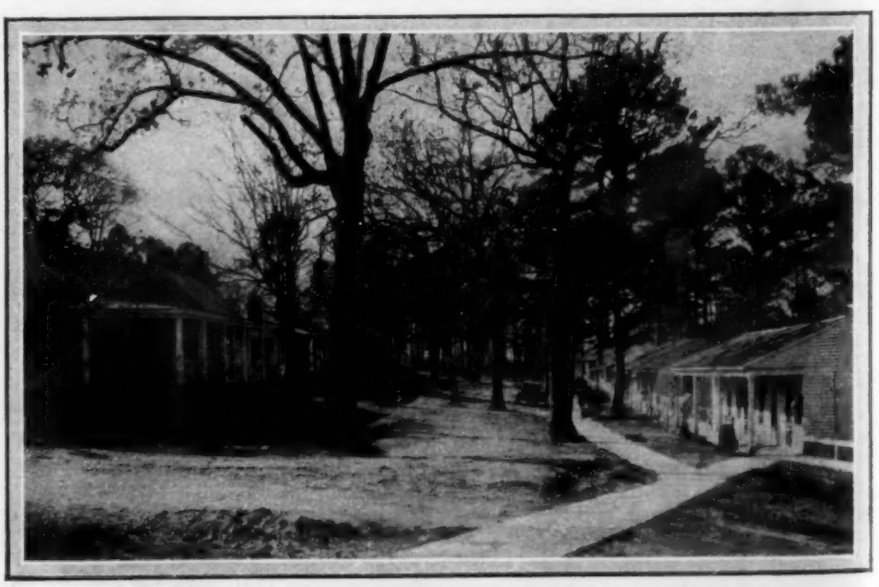
On July 28, 1927, the Georgia Warm Springs Foundation was incorporated under the laws of New York as a charitable institution not run for profit. Mr. Roosevelt was elected president and other well known citizens became members of the board of trustees. In 1928, a board of consultants including thirteen nationally known orthopedic surgeons from many different cities was organized. The board is available for consultation and advice in planning the future program. No patient is accepted unless his own physician recommends his coming to Warm Springs and writes a letter to the surgeon-in-chief giving a description of the case.

An orthopedic surgeon is director of the experiment. A graduate nurse and trained physiotherapist heads a staff of ten or twelve young women with physiotherapy training who give treatments in the pools. A medical attendant holds a clinic three times a week and his services are available at other times when needed. A trained nurse has recently been added to the staff to care for minor illnesses.

Part of the cost of maintaining the center at Warm Springs and of the erection of buildings has been met by philanthropic gifts. For that reason charges are moderate in proportion to the facilities and comforts offered and cover only the actual cost per patient. The Foundation has no endowment fund at present and, therefore, cannot admit free patients. A small patients' aid fund made up of voluntary contributions enables the management to take at times a few patients at a rate somewhat less than the regular charges.

The work has grown close to the limit of present capacity. On Feb. 1, 1930, the number of patients was ninety-three and there was a waiting list. About 300 patients from all parts of the country were treated in the first three years. Both children and adults are accepted. In most sections of America it is difficult to find facilities for efficient long-time care of persons over 16 who have infantile paralysis; facilities for children are more often available.

The plant owned and operated by the Warm Springs Foundation is still in its beginning stages. The work began in the lower rooms of the rambling, old-fashioned inn which was purchased by the Foundation with 1,200 acres of land. Meals are served in the attractive dining hall of the inn, but most of the patients now live in newly constructed one-story cottages located close by and connected with the inn by cement walks. The cottages accommodate from three to fourteen patients. Such surroundings assure quiet during rest hours but permit the patient to associate with the large group at meal times and before the open log fire in the lobby of the inn during the evening or on rainy days.



Most of the patients live in new one-story cottages.

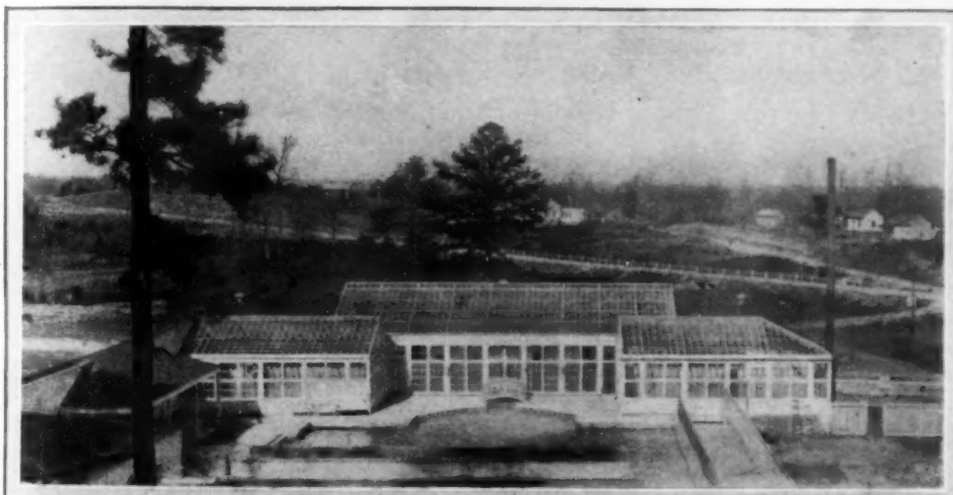
A new infirmary building, opened in March, 1930, contains offices for the director and his assistant, a laboratory, x-ray room, two wards of four beds each, and two private rooms. A few patients have erected private housekeeping cottages in the neighborhood from which they can come for treatment at the pools.

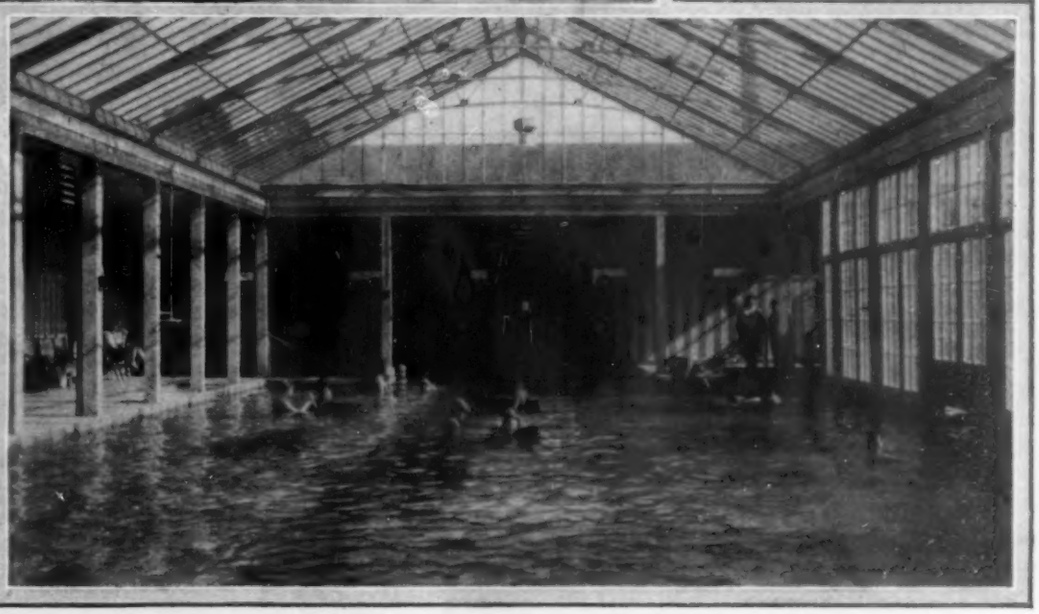
The pools at Warm Springs include, in addition to a public pool used by visiting friends of patients and by neighboring residents of Georgia, an open treatment pool that can be used for a large part of the year for the patients and a fine glass enclosed pool, the gift of Edsel Ford, which was opened on Thanksgiving Day, 1928. Exercises can be carried on in this pool regardless of outdoor temperature or weather conditions. The enclosed pool is 85 by 35 feet. The steel frame supports a room entirely glass, thus utilizing the sunshine to the utmost. The dressing rooms for this pool accommodate about 100 patients and are well heated by steam. The water is chlorinated and the pool is entirely drained and cleaned every day, so that the patients do their exercising and swimming in water which is fresh and absolutely sanitary.

Treatment of patients after arrival at Warm Springs begins with a complete rest, followed by a thorough physical examination and recording of the history of the case by the surgeon-in-chief. Next, the patient receives a complete survey and test of every muscle in his body. These tests are recorded on charts in order to determine the exercises needed and for purposes of comparison with the results of later examinations which are given at regular intervals.

The muscles are ranked according to six grades—zero, trace, poor, fair, good, normal; plus and minus signs are sometimes used to indicate degrees of difference between the grades. The muscular exercises are prescribed according to the showing of the charts. The attending physician holds a clinic at the infirmary three times a week at which patients are welcome to consult him in regard to any ailment.

Life at Warm Springs has the pleasantness and charm that one associates with the old South. The many verandas of the old inn building bespeak a leisured comfort. Patients are expected to conform to the regular routine of meals, sleep and treatment; otherwise they live a free, simple life according to their own choices. The general atmosphere is unlike that of a hospital, even to the extent that the staff members do not wear uniforms. If a patient reaches the stage at which his condition permits, he finds at hand a wealth of wholesome outdoor sports in which he is encouraged to join.





The indoor winter pool is glass enclosed; it is 85 by 35 feet and its steam heated dressing rooms will accommodate 100 patients.

That Zest for FOOD

By Rachel Ash

Provide a small table and chairs at which the children may eat in comfort.

A ZEST for food! How can I cultivate in my children a zest for food? This is the cry of innumerable mothers. Begin at birth, is my reply. Let us hope your child is breast-fed, but whether on the breast or on the bottle do not feed him too often. As soon as possible accustom your healthy infant to a schedule of five feedings given at four-hour intervals between 6 a. m. and 10 p. m. If baby cries during the night let him have a drink of boiled water. This untempting beverage will soon cease to stimulate him to waken. Do not overfeed. Be guided by the well trained physician who will advise only sufficient food to maintain an optimum rate of growth without overloading the infant's digestive capacity. In other words, let your infant learn what hunger and a good appetite mean.

Introduce variety early. Before his first birthday your child should be accustomed to the use of a spoon and to the flavor of cereal, vegetables and broth. Feed new foods in small amounts at first, letting baby get accustomed to the new flavor gradually. Never force him to eat.

Wean the Baby Early

Do not encourage prolonged use of the bottle. By fourteen months normal children should be taking all fluids from a cup or a glass. A breast-fed child nursed the full eight or ten months need never be given a bottle. Begin in the ninth or tenth month gradually to supplant each nursing with feedings from a cup. If baby has trouble with the usual drinking vessel try a small glass of 1 ounce capacity—a medicine glass does nicely—and see how pleased he will be. Don't worry if some of the milk spills while he is learning to drink without sucking.

More difficult is the problem of the preschool child with ill regulated feeding habits. Such children will refuse to eat the more substantial portion of the meal but will gobble up the dessert. In an hour or two they are hungry and mother rushes to make a chocolate milk shake or to present them with a custard or cookies, so pleased is she to see them evidence any desire for food. Why should such children eat prosaic vegetables and cereals when by biding their time more delectable foods are produced? Even intelligent mothers often fail to analyze such a situation correctly, but will ascribe the poor appetite to delicate health.

To Yield Once Is Fatal

The best remedy is to lay down the firm ruling that there will be no dessert and no food of any sort served between meals unless the main course has been eaten. Never relent; to yield just once is fatal. Recently I watched a 4 year old gobble down two plates of milk toast as fast as she could eat it. Just ten days previously her mother had consulted me because the child would not eat. "What methods did you use to bring about the change?" I asked the mother. "I did just what you advised," was the reply; "I told her that there was to be no food eaten except at meal times. It was just like shaking the ax over the neck of the hen to make her lay. Mary began eating at once."

Such rapid success is not always obtained, I confess. Mary had learned long ago that when mother made a rule she enforced it. If mother said "No food between meals" in that tone of voice she meant it and Mary needed no further inducement to eat. But there are ways to heighten a child's interest in meal time that can be used in conjunction with this ruling.

Let us analyze the present vogue for tearooms and coffee shops. With the aid of a clever color scheme, a few bits of brass, a blazing fireplace, a hint of the exotic, the touch of romance

is added to the business of eating and despite poor service and high prices our teahouse will be crowded while the everyday type of restaurant around the corner loses business.

Only too often, crude and unattractive methods of serving are considered good enough for the children. Add the touch of romance to their meal. Provide a small table and chairs at which they may eat in comfort. Supply a miniature centerpiece, frequently changed, of one or two gay flowers, real or artificial, in a tiny vase; a toy duck standing on a small doily or a candlestick and colored candle. You will be surprised at the amount of interest even a 2 year old will manifest over such a table set with his own dishes and eating utensils. One pair of children in my acquaintance, aged 3 and 4, respectively, have a small bell that they ring when dessert is to be brought in. The privilege of ringing the bell is accorded to the child who has first finished the main course. There is rarely much loitering at their meal!

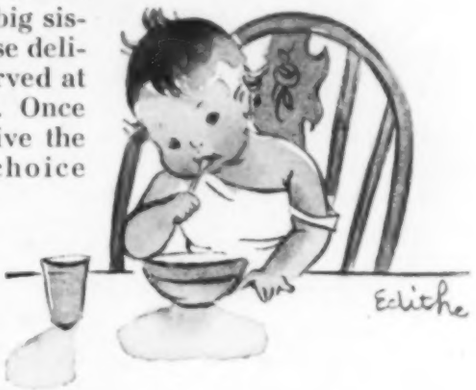
Stimulating the Appetite

Various methods of stimulating the child's curiosity may be tried. A dab of crimson jelly or jam or a few raisins may be placed in the bottom of the bowl of cereal or the cup of junket. Acquire a few "see the bottom" bowls that induce the child to finish his cereal or soup in order to see the duck or bunny painted on the inside of the bottom.

Recently in a ward of a children's hospital I saw a variation of this idea. Small pictures—a smiling infant, a puppy, a pyramid of blocks—cut from magazines were fastened, face up, to the bottom of a tumbler by means of a gummed label large enough to conceal the entire outline of the picture. Only by emptying the glass could the child see and obtain the picture. Hanging on each child's bed was a cardboard poster ruled in squares. Each picture thus obtained was pasted in one of the squares and inscribed with a name of the child's creation. The game was to fill all of the squares as soon as possible.

There are infinite competitive possibilities to this idea. The same ward makes frequent use of the individual calendar on which gold stars are pasted if the child has finished his meal.

Accustom the youngster to eat a simple, well cooked meal without question, but watch for signs of boredom! Now is the time to surprise him with a new dish or a variation of an old standby, such as brown sugar or cinnamon and sugar sprinkled on the farina. Decorate the salad or add some simple candies to the dessert. Little daughter will get the same zest from an occasional serving of cinnamon toast or a toasted marmalade or modified club sandwich as do mother and big sister when these delicacies are served at the teahouse. Once in a while give the child free choice as to menu. Unless such treats are sufficiently infrequent to have an element of the unusual, they miss their point and nothing is gained.



Father may be brought into the game. Let him share the enthusiasm when meals are finished promptly, but fail to comment if the child has refused to eat. When he comes home let him good-humoredly pretend to read in the child's eyes whether he has "licked the platter clean." Almost invariably, if the child has eaten he will meet his father's eyes with a proud grin; if he has not, he will stand before him with downcast lids or an air of bravado. How father's prestige will rise when he reads the eyes correctly!

Appealing to the Intelligence

The older child can be influenced by appealing to his intelligence and better judgment. If such a child is given a clear exposition of the food constituents necessary to build body tissue and provide energy he will often be stimulated to cooperate. Cards may be obtained printed with pictures of foods requisite for a well balanced diet—a bottle of milk, the everyday vegetables, fruits and cereals. The child can pick his daily menu from this card.

I remember once demonstrating such a card to a boy and pointing out that there were no cakes, candies or doughnuts pictured. "That's true," he exclaimed with sudden accession of interest, and then added plaintively, "and no pie, either." These children, as did this boy, often display surprising zeal in seeing that their mothers provide the table with the pictured foods only.

Finally I return to my first advice. If you wish a good appetite for your child, begin at birth. Much trouble will be saved if from the outset you pursue a regular feeding regimen in accordance with the advice of a good physician. But whatever your child's age, if he has no zest for food there is something the matter. Don't flounder about by yourself; take him to a trained physician and abide by his advice.

How Clean Is Your Town?

By Ines Stearns Macaulay

Paris keeps its gutters clean by abundant flushings.

AS A child I was fascinated by the well known "Spotless Town" advertisement of Sapolio. The rows of clean, neat cottages, the immaculately kept streets, weedless lawns and gardens made a sort of fairly-tale place that I loved to look at though I knew it could never come true. But later when I read in my story books how the Dutch women scrubbed their stoops and polished their door-knockers, swept the barns and put curtains in the barn windows I thought that perhaps in Holland there were spotless towns. But our town was far from spotless. And the big city where I often went with my parents had many streets that were depressingly dirty and ugly.

No litter in Munich. Any one who drops as much as a scrap of paper is fined.

In those days there was little talk of town-planning. There were no garden clubs, no civic improvement associations, no flower shows. Sometimes a visionary professor in the little college on the hill would make suggestions as to what might be done in the way of improving the appearance of our town, but he was never taken seriously.

But now with the vastly increased traffic on our roads and the rapid growth of cities, conditions everywhere have changed. The people in cities as well as little villages have begun to realize the importance of keeping roadways and parks clean, of caring for refuse and débris in a sanitary, scientific way. But we are still far behind the cleanest European cities in methods of keeping our cities clean. We are admittedly ahead of other European cities. It might be remarked in parenthesis that travelers returning from Venice report that the romance of that city's famed canals quickly fades because of the persistent, undisguised smells!

In New York the Academy of Medicine appointed a committee of twenty to investigate street and outdoor cleanliness. Last summer they sent one of their number abroad to collect

information as to the best methods of street cleaning and disposal of waste. He was Dr. George Soper, a distinguished physician and sanitary engineer. I was much interested in Dr. Soper's report. He and Mrs. Soper are friends of mine and their story of what they saw and learned was so vivid I felt almost as if I had been one of the party.

Twenty-four cities were visited in seven countries. Among them were London, Paris, Berlin, Dresden, Hamburg, Cologne, Munich, Vienna, Prague, Liverpool, Birmingham and Glasgow. People everywhere were interested in learning the best ways of keeping their town clean and helped the authorities by loyal cooperation. Dr. Soper says that the degree of cleanness of a really clean European city cannot be appreciated by those who have never seen it. "In a taxi ride about Munich—the cleanest city of them all—which lasted for two hours, the amount of litter seen was not more than could have been carried away in a man's hand." Ah, then there is a spotless town in this very prosaic world! How was this accomplished? By strictly enforcing the law against litter. In Munich if any one throws a scrap of paper on the sidewalk he is politely requested by the police to pick it up and to hand over a fine of one mark. Mrs. Soper told an amusing story of an Englishwoman who was thus fined for throwing a scrap of paper in the street. The policeman handed her a receipt for the fine. In her agitation she tore it up and threw it away, only to be firmly requested to pick it up and to hand over another mark. About 2,000 persons a year are fined in Munich for such offenses.

Litter baskets are provided in the cleanest European cities, attractively designed and securely placed. They are emptied frequently. In some German cities the basket has a hand painted on it with the inscription, "The Cleanness of This City Is in Your Hands."

Dr. Soper brought back with him many pictures of the modern, highly efficient machines used for sprinkling, sweeping and cleaning the streets. The old men with stubby brooms who sweep our village streets look inadequate in comparison with the modern equipment shown in these pictures.

Berlin is beautiful and sightly because the air is free from smoke.

Gutters as well as the middle of the street are kept clean in Paris by flushing them with an abundance of water. Automobiles send a great deal of dust to the gutters and the wind blows it into the air and onto the sidewalks. A slight breeze in New York causes the air to be filled with dust and scraps of paper. Some of the dust gets into people's eyes and some of it settles on their clothes and in their lungs.

Dr. Soper was also interested in the question of garbage disposal. This is a vexing question in many American towns. In some small places, householders have to bury their garbage in the back yard and burn the papers themselves. In New York it is a cheerless sight in the early morning hours to see the rows of ash cans and

Ewing Galloway

A system of refuse collection that absolutely eliminates dust. This system is being used in Germany, Austria and Czechoslovakia.

garbage cans sitting along the curb, often uncovered. Two-wheeled carts, horse-driven, come by and the cans are emptied into them while the morning breeze scatters ashes and papers and wafts unpleasant odors up and down the streets.

A System That Eliminates Dust

In Germany, Austria, Czechoslovakia and England Dr. Soper found that a new system of collection of refuse was being used, which absolutely eliminated dust. In Germany this system is employed in more than 150 cities. The cities own the special house cans, which have an attached, tightly fitting cover, and they lease them to the householders. The can is emptied into a closed collecting vehicle by means of a shutter, which automatically opens when the can is pressed against it and closes when it is withdrawn. It is impossible for dust to escape. In some cities the cans are taken away to be emptied, scrubbed and cleaned before their return on the next trip.

One reason why Berlin is an immaculately clean city is because bricquets are burned instead of coal. They are so clean they can be picked up without soiling one's bare hands. Berlin is a beautiful and sightly city. No clothes may be hung outdoors to mar the view. Most people send their washing into the country. Curtains stay clean much longer than in most cities in the clean, smoke-free air. As one friend of mine who had spent three years keeping house in Berlin put it, "Even the poorest people, the down and out, are clean. Their clothing may be rags, but they are clean rags." Such a degree of cleanliness is unknown in American cities.

Life Is Pleasanter in Clean Cities

The cleanness of your city makes a tremendous difference to your life. Any one who has kept house in a clean little western town where there are no factories and then has moved to an eastern city such as Pittsburgh, Cincinnati or New York will appreciate what I mean. Housekeeping, laundry, the upkeep of the home are all simplified and made easier in a clean city. Furthermore, life is made pleasanter and healthier. A person who has spent his youth in a really clean town is never quite happy in a city where he cannot keep his hands clean.

Settin' It Down for the State

By

Lucretia Penny

"Who did you say had a new baby, Aunt Paisley?"

AUNT PAISLEY bent over her tubs. Her washing was, after all, her rightful reason for being there and while the State, badly spoiled, overgrown white-chile that it was, must be humored at all convenient seasons there was no use in letting its nonsensical demands crowd the weekly wash of the family of Smythe.

Aunt Paisley was primarily a washerwoman and her midwifery, for all that she had practiced it with fair judgment for approximately sixty years, was a mere avocation. Even the fact that odd moments of original thinking had led her to certain conclusions which she looked upon as peculiarly her own did not tempt her to consider her midwifing activities as her greatest contribution to society. She was, I repeat, primarily a washerwoman.

If one asked what magic she performed to mark clothes with that dazzling whiteness that never hung from others' clotheslines she would answer with a well concealed thread of pride in her old voice, "I washes 'em out and biles 'em out and rubs 'em out and renses 'em out. Den I blues 'em. Den I wrings 'em out and shakes 'em out and hangs 'em out. Hit hain't *whut* I does to clo'se. Hit hain't *whut* you does to nothin'. Hit's how *good* you does hit."

As a collector of birth certificates I learned that I must of necessity take large doses of the old woman's philosophy and a wealth of technical detail along with the facts which the State's record blanks requested and sometimes got. I learned to be a bit casual in my queries for it was more than plain that Aunt Paisley could not bear patiently with a meddlesome State. And I learned, too, to regard as sacred any crisis in the process of "bilin' and rensin' and bluin' and wringin' " lest this State, which I so humbly represented, appear frivolous in the eyes of a master washerwoman.

The original agreement had been that she, who had neglected to study the art of "settin' things down," should call at the home of the local registrar of vital statistics and report each birth which she attended, but this proved to be something that invariably slipped "her membry" and in the end I found it simpler to wheedle the information from her as painlessly as possible on Mondays while she bent her splendid, steady old muscles to the task of caring perfectly and with enviable satisfaction for my family wash.

We had started off rather well on this particular April Monday. Casually I asked what news she knew.

"Nothin', Chile; nothin'. Hain't no news up my creek atall."

"Everybody's well and happy then?"

"Fur as I knows dey is. Pneumonies is 'bout over and de fevers hain't come in yit. All's good enough, I reck'n."

"Nothing new but babies then. Always those, aren't there?"

She nodded absentmindedly, her frowning attention concentrated on an ink stain on a shirt sleeve.

I was tempted to hurry. "Who was it this time, Auntie?"

The sun glinted on her tin snuff-box as she tapped the brown powder thoughtfully into the lid of the box

and pushed out her long lower lip for a refill. She sighed. "Who was whut, Chile? . . . Dat dar inky place looks stubbo'ned kinder, don't hit? Reck'n hit's store ink."

"Don't bother with it a minute, Aunt Paisley. It's an old, old shirt. Look at the cuffs. It won't hold together until another wash day."

She gave me a withering look. The age of the stained shirt was irrelevant. The ink had no business there and it must come out, but she laid the garment aside to be attended to later and I congratulated myself that a tedious delay had been escaped. I could return to my task.

"Who did you say had a new baby, Aunt Paisley?"

And then Aunt Paisley bent over her tubs. She took on the pose of one who is primarily a washerwoman. Laboriously she soaped a blouse. Delicately she rubbed it against her steaming washboard. She sighed again more elaborately. Her broad, loosely wrinkled face broke into a contortion which I knew by experience was expressive of a "slippin' membry." For a moment I wondered if she would disclaim her avocation altogether—plead complete amnesia.

"What's dat you say?" she asked after a little.

I strove for an effect of meekness. "I was just asking whose the new baby was?"

"Has I tole you I has cotch any new ones?" she wanted to know irritably.

More meekness might yet save the occasion. "W'y, I thought so, Aunt Paisley."

She relented somewhat. The meek shall indeed inherit!

"Well, now—le's see. Maybe I has now and maybe I hain't. Yes, I reck'n maybe I has . . . Well (dey slips my membry so!), has I done tole you 'bout Paralee Fittses and how close I come to losing Paralee? Dat was shore one time I had! De baby, hit was bawnded plum blue and daid, and fo' times—spite'n all I could do—dat Paralee tried to pass out on me."

She paused to bring a bucket of hot water from the big iron kettle under the sycamore and I rushed in an idle question hoping to steer her away from further professional detail. "I don't know Paralee, do I?"

"Don't you now?" Aunt Paisley wondered, "her some calls 'Lee' and for a last name 'Fites' and den ag'in you'll hear 'em say 'Paralee Mills.'"

"And which name is right?" I asked, having in mind an accuracy more ideal than practical.

"Dey all is. Paralee's got a good right to all dem names. See, her mammy was a Mills—Louisa Mills—and her pappy was a Fitts or a Fites, whichever 'tis, and den atter her mammy died Ol' Mister Mute Hayses folks tuk her to raise and some tuk to callin' her 'Hayes.' You 'members dem Hayses, Chile? De ol' man was deef and dumbed and he had him a blacksmith shop up Blue Creek Branch. A mighty smart bunch dem Hayses was. Mostly dey wasn't quite bright but dey was smart to de leastest chile dey had. A body as smart as Ol' Mister Mute don't need to be much bright."

And then she was off on a lengthy account of just who the "Hayses" were and had been back to the third and fourth generation. Undoubtedly the old woman had a flair for genealogy when she cared to display it but what she chose to reveal coincided with what the State chose to record with discouraging infrequency. She went over to kick the logs together under the "bilin' kittle" but the line of the "Hayses" trailed behind her unbroken. I watched her dark face through the steam and smoke and tried to visualize the space left on the State's record form for names and thought how often it proved insufficient for the choice collection

"Chile, you neber reck'ned I aimed to let hit stay daid, did you?"

which she introduced for my consideration. Perhaps it would be worth while to take the matter up with the State.

I dodged back into the conversation when she at last paused to locate a bar of soap which was buried under the clothes in her tub. "And whom did this Paralee marry?" I wanted to know.

With a soapy towel she made a gesture of impatience. The fault in my technic deserved a more forceful rebuke. I had not allowed her sufficient time to finish her wanderings into the obscure history of the family that was plenty smart but not bright enough. She was good for another generation of their ancestry.

"Now, den," she grumbled, "you done jumped in and axt me one dat I can't answer right off." She hadn't found the soap and she couldn't wash without it. I've sometimes thought that equal

parts of soap and water would be Aunt Paisley's idea of an ideal formula for wash day. "Paralee ma'ied one of Ol' Pete Tuttleses no 'count boys —de biggest one. 'Bout now of last year she ma'ied him and den 'bout hog-killin' time he run off atter dat crap game whut Little Johnny Botts was cut up in. I reck'n I neber knowed whut dey called dat boy. Else hit done plum slipped my membry. Some does call him 'Slick' but dey calls all de Tuttles dat, so I reck'n he maybe got a sep'rate name of some kind. Currus I neber knowed hit. Matt now would know, or Barney. But hit don't atall matter none. He's done gone now and eben if he come back his right name whut he had ought to go by couldn't neber be nothin' but jes Triflin' Onery No 'Count Cussedness!"

Realizing that she was off on a subject that could well occupy her entire morning I risked another interruption. "Paralee's baby a boy or a girl?"

Aunt Paisley critically inspected a sheet. She frowned. I couldn't be sure whether it was with me or with the sheet that she was displeased. There was no visible flaw in the sudsy linen.

"Hit was one or t'other and I hain't shore I 'members which. Hit don't matter none atall. Whuteber hit is hit will wisht hitself t'other. If hit's triflin' like hits pappy hit had best be a gal and if hit's feisty like hits mammy hit had best be a boy. Triflin' looks to me like hit's becomin'er to a woman and feistiness looks better on men-folks."

I had heard her argue it both ways around, the two qualities being to her mind the cardinal vices of the age, but three interruptions in succession would be unworthy of the old State's courtesy and so I heard it all over again and waited with what patience I could until the demands of the wash brought a natural pause. Then as she swung the heavy weight of wet clothing into the "bilin' kittle" I sought opportunity to establish the date of the baby's birth.

"If you neber heard 'bout hit 'fore now hit must h'a' been dis last week, don't you reck'n? And hit wouldn't 'a' been Monday 'cause I was here dat day, and it wouldn't 'a' been Tuesday 'cause dat's Mis' Perkins' day and it wouldn't 'a' been Sattidy or Sunday 'cause dem was Church 'Sociation days."

"It was Wednesday or Thursday or Friday then?" I asked.

She was pathetically pleased over our accuracy. "Now you got it 'zactly," she exclaimed.

I didn't really want to be tiresome but when your State trusts you and it might possibly make a difference whether a certain little black citizen was born on the eighth or the ninth or the tenth of April ——!

"But I don't know which day of the three, Aunt Paisley!"

"Hit rained dat mawnin' I 'members."

"It rained both Thursday and Friday mornings."

"Well, den it was Thursday or Friday. One day is good as 'nother, Chile. Rainy or whutnot, one day is good as 'nother to be bawnded on. Good folks has been bawnded on all days and so has de no-goods. Bein' bawnded hain't nothin' but a start and a mighty pore start at dat. De maindest thing is stayin' bawnded. Being bawnded lots de time don't come to nothin' and den dere you is—done gone to de trouble to set hit all down and when you gits hit whut has you got? Now, look at me, now! My age got set down on paper and de year de big wind come and blowed off my roof all my things got scattered and my age blowed away and I hain't laid eyes on hit sence. If hit hadn't been for dat I'd be more'n likely up past a hundred by now. I was done 80 when hit blowed away." She put both wide wet hands on her hips and straightened to her full magnificent height. "Uh huh, Chile, dat was de best day's wuk de wind eber done me. I got to go git de bluin' now. I left hit on de gate post. Is you heard 'nuf 'bout dat Paralee's baby? Once you could hear hit yell a night or two you'd maybe be proud to hear no more out'n hit or 'bout hit."

"But I thought that you said the baby was dead!" I exclaimed, crossing "stillborn" out of the list of facts my mind had registered during the haphazard colloquy.

"Chile, you neber reck'ned I aimed to let hit stay daid, did you? I blowed the bref of life in hit same as allus I does to de daid ones."

In the afternoon I lured her back to the subject and next day I sent the State a record by which it might thereafter swear, and in due time a just State sent me twenty-five cents in payment for services rendered in reporting the birth of a child to Paralee Fitts or Fites or Mills (or was it Hayes?), and Ol' Pete Tuttle's biggest boy, sometimes called "Slick."

Making the Most of Medicine Ball

By Minnie M. Martin

Right side throw

Shoulder throw

Overhead throw

NOW that President Hoover has set his stamp of approval on medicine ball, I feel tremendously set up to be able to confess that I have been a medicine ball addict for more than twelve years.

"Medicine ball? Oh, yes," says a plump little lady; "that's the ball you roll up and down on your stomach and abdomen to take off the fat places." Which goes to show that plump little ladies and their still plumper husbands know less than they should about this helpful leather sphere.

Golf supplies the right kind of exercise for those who have the necessary time and money to play it; tennis has, during the summer months, thousands of enthusiastic players; yet there are hundreds of thousands who require some healthful exercise in the open air who can afford neither the time nor the money for these games. That is where the medicine ball comes into play, so to speak, for there is no other home exercise that can be made to yield a greater percentage of benefit for effort invested than work done with a medicine ball. One of the nicest things about it is that it can be done in your own yard.

For the uninitiated let us explain that a medicine ball is a leather ball weighing from 4 pounds up. The 4 pound size is best for the person unused to muscular exertion, the 6 pound size for permanent use by the average man and woman. The ball is thrown, not batted. A good neighbor of ours came over one morning to ask why we were throwing the ball to and fro instead of using a bat "to get some real exercise out of it." Our answer was to throw him our ball, which he rolled back murmuring, "I thought it was hollow."

No, it isn't hollow; it's solid—and how! Yet even the unexercised can quickly make friends with it; and, properly thrown, the ball will rid one of excess fats, tone up circulation, round out hollow places, eliminate toxins, and drive away the blues. This medicine ball regimen

can be carried out in your own yard or in some nearby park. No country club membership is required, no expensive apparatus. All that is needed is: the ball, a partner, and a bit of will power.

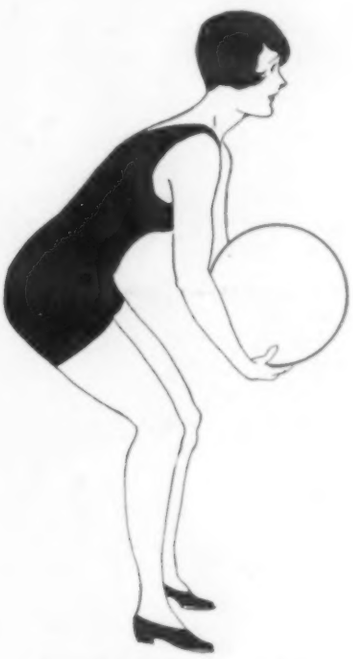
Now let's get our ball and begin. At first we stand not too far apart and we go rather gently for a week or so, in order not to put too great a strain on muscles unaccustomed to work.

I. Right Side Throw

Hold the ball on the palms of both hands; twist the body to the right, with the right foot back. Throw the ball to your partner, who is to return it from the same stance. If the ball does not come up to you, reach for it; if it falls, bend for it; that's part of the fun.

Front throw

Chin throw



Backward overhead throw

II. Same Throw from the Left Side
III. Shoulder Throw

Bend the right elbow back of the right shoulder, with the ball on the palm of the right hand; use the left hand merely to steady the ball for the throw. Throw the ball to your partner. Put your back and shoulder muscles into it as well as those of your under arm. Don't be afraid to move your feet and bend your trunk.

IV. Same Throw from the Left Shoulder

Always aim the throw up and over.

V. Overhead Throw

This throw will be easier if you keep one foot advanced at first. Later, the feet should be kept together. Hold the ball with both hands, well back of the head. Throw upward and over to your partner. Use the shoulder and upper back muscles.

VI. Single Arm Throw

Assume the same standing position as in I, using only one arm at a time. Crook the right elbow and cuddle the ball between wrist and elbow. Try to look like a discus thrower. Heave the ball up and over.

VII. Same Throw Using Left Arm

VIII. Front Throw (Great for Flabby Tummies and Large Fronts)

Hold the ball on both palms in front of the abdomen. Throw it up and over to your partner. This will be a bit difficult for beginners. When your partner returns the ball, try to make your next throw at once without readjusting the ball. A fine game can be made of this throw later on, by returning the ball as in tennis; that is, by "placing" the ball so as to make your partner run hither and yon for it.

IX. Chin Throw

Hold the ball in your hands in front of the chin, palms out. Force the arms up and out to throw the ball to your partner.

X. Backward Overhead (the Grand Climax)

Turn your back to your partner; bend so that the ball is about level with the knees. Hold the ball well toward the finger tips. Now give it a great lift over your head to your partner, rising on your toes as you throw.

How many shall you do? Begin with five of each, standing about 10 feet from your partner.

Increase steadily both the number of throws and the distance until you are exercising twenty-five or thirty minutes. You should then be standing from 20 to 25 feet from your partner, or more if you wish, and be throwing from twenty to twenty-five of the first nine throws and fifty of the tenth. Begin each day with this exercise and end it with a brisk walk, and you can accomplish more than you had dreamed.

Wear old, loose, rather heavy clothing, and as few of those as your sense of fitness will permit. Put all your vim into each throw. Get your husband, wife, son, daughter, or neighbor for a partner. Even your enemy will do, and you will either get revenge on him or you will make him your friend for life. No one is too old to play medicine ball if his heart is not organically affected, for he can begin as gently and work up as gradually as he desires. Don't do it if your doctor says you should not.

Weather is no obstacle to the medicine ball exercise. Get an oilcloth cover for your ball and an old sweater cover for yourself for rainy and snowy days. A recent paragraph in a weekly magazine tells of Mr. Hoover's trotting out to play medicine ball in the snow before his morning coffee. An alcohol rub will keep you from taking cold.

Your neighbors will be curious about your new exercise, and that will give you the opportunity to spread the gospel of exercise through your neighborhood. We who know the game feel that medicine ball will become the great American home exercise, for it is within the reach of almost everybody and it pays high dividends in physical fitness and mental alertness. The M. B. degree, which you can earn in six months of work with a medicine ball, will repay you more than almost any other degree you could earn in the same time.

China's Famine Is Worst in Its History

SEVERE drought for four years and constant civil war over a longer period have brought about the most disastrous famine in the history of China, perhaps of the world.

Pacific and Atlantic

Because it has such a vast population, China's balance between food supply and starvation is always precarious. Any serious interruption of normal routine therefore precipitates disaster. The failure of one season's crop brings privation and when one dry year follows another and still another follows that, as has recently happened, thousands die and other thousands revert to savagery.

Add to the natural causes, the internal turmoil of the country and the situation becomes doubly acute. Military leaders have seized railways, monopolized their equipment, destroyed tracks and bridges to hamper opposing forces. Marauding armies have ruthlessly stripped the country districts of surplus food, of live stock, of farm implements.

Highways are almost unknown in the famine areas. Narrow mountain trails traversed by donkeys, wheelbarrows, native carts or men carrying packs on their backs are the only means of bringing in food. Thus with the railways paralyzed it is impossible to bring in sufficient food supplies to make any impression. According to the report of a commission sent to China by the American Red Cross, printed in *The World's Health*, the necessary grain for famine relief is to be found in Chinese territory. The difficulty is transportation.

In the same issue of this magazine, the China International Famine Relief Commission presents a picture of the misery of the people corroborating newspaper accounts that are still issuing from the stricken districts.

Whole villages are trying to keep alive by eating leaves and bark from trees, grass roots, bits of chaff and any or all of these mixed with clay to give more bulk. Appalling numbers of persons have been reduced to a condition in which they eat anything no matter how repulsive.

Along the roads are seen many a straggling, ragged group like these in the accompanying photograph, with enough vitality to move on in the hope of finding something better. Houses, land, everything has been sold and now the wretched parents are selling their children. Sons, daughters and even wives are turned over to any one who will pay a few dollars. Girls bring higher prices than boys. A report from one province alone declares that 80,000 women and girls were sold in one year, mostly for wives, but some—the prettiest and most intelligent—for professional entertainers.

ORIGINS OF GREEK MEDICINE

By Edmund Andrews

A GLIMPSE of Greece in the seventh century B. C. affords but little hope of the development of culture, much less of science. The life pictured in the early poets of the period is primitive, almost pastoral. Dwellings are mere huts, sometimes grouped in small towns. Even the palaces of the nobles are not much better. Buildings are so crude that little survives today that is worthy of the name of architecture. Art is childish (fig. 1) and letters are almost unknown. The earliest Greek inscriptions date from this period.

And in 200 years Hippocrates appears! We are astounded by the appearance of a science in its maturity presented to us from the pen of one who might almost literally be said to have no predecessors. It is a part of the whole galaxy of the Periclean age, and it is obvious that even the genius of Hellas could not have evolved it from nothing in this short space.

To modern scholars it has been until recently a mystery and a field for much speculation. Historians have turned to Egypt, Babylonia, Phoenicia and other more cultured lands to furnish a background for this sudden outburst of civilization in the fifth and sixth centuries. The results of such searching have as a rule been meager.

Classic Greek scholars were early to recognize this incongruity, but they unanimously and unhesitatingly pointed to Crete as the origin of their culture. Herodotus, Thucydides and Plato are all specific on this point. Going back to Homer, the picture is even more clear. Crete is "hundred citied," "mother of men," "dwelling place of Zeus." The only city that Herodotus ever calls great is Knossos. All through classic lyric as well as epic poetry are allusions to the palaces and fabulous cities of Crete. Crete is the "mother of invention." The spirit level, the drill and wedge, as well as the sailing ship, were said to be Cretan inventions. In fact they were so intelligent that they suffered the penalty of many who can outwit their fellows, and their name became synonymous with "liar," and it still is to the modern Greek peasant.

All this evidence was ignored by modern scholars until the last quarter of the nineteenth century, when the startling excavations by Schliemann at Troy, Mycenae and Tyrins pushed back the horizon of history five hundred years. The cul-

Fig. 1.—Greek vase painting of the seventh century B. C., showing extreme crudity of art. (From Encyclopaedia Britannica.)

Fig. 2.—Vase painting of about 650 B. C. The words are: left, reading down, Diomedes; right, reading down, Odyseus; below, reading up, Ajax. (From Encyclopaedia Britannica.)

ture dating from the twelfth century B. C., as revealed by his work, was astounding in that it far surpassed that just preceding the classic age of Greece. It remained, however, for Evans, beginning in 1900, to unearth the remains of a civilization of which Schliemann's Mycenean age was but a degenerate stepchild, the last gasp of a dying culture.

Fig. 3.—Cretan mother goddess with snake.

From Crete, centered about Knossos, spread the mighty Minoan empire. Colonies and trading posts dotted the Aegean islands from Asia Minor to Sicily. From 3000 B. C. the development of this culture was rapid and continuous, culminating in the "Golden Age." From 1750 to 1400 B. C. mighty cities and palaces, beautifully decorated, carved and painted, abounded in Crete and the colonies. Great ships sailed the Aegean. Artists decorated walls and vases with works of art of unrivaled beauty (fig. 4), all this at a time in prehistory which a generation ago was looked upon as an age of savagery. It is this culture that I propose to examine as the source spring of Greek science.

But, first, let us see what becomes of it. In about 1900 B. C. the first rude Aryans began to filter into the Mediterranean world from the North. As they spread into Greece the Minoan cities and colonies vanished and were replaced by walled towns and fortresses built by the first Greeks, the Achaeans. However, the overthrow is not complete.

Cretan arts persist and much of the old culture is preserved. The rough Nordic invaders probably set themselves up as local tyrants over Cretan cities and ruled over a large majority of the more civilized Mediterraneans. Their castle was the typical "burg," the stronghold dominating the neighboring country. It was an age of "robber barons," probably nominally tributary to Knossos. The more cultured Minoan types depicted in the paintings and seals are replaced by the rough mustachioed adventurer whose appearance is strikingly like that of the Norman robber baron. Both these types are shown in the heading of this article. At the top are the Minoans; at the bottom the barbarians. By 1400 B. C. these Achaean freebooters learned navigation. They still called the sea by a Cretan name, "thalassa." "Steering," "rudder," "deck," "sail," and "mast" in Greek also bear non-Aryan names of Cretan derivation. However, when they got seasick they used their own term "nausea."

Some great argosy sailed from Greece and Knossos was razed, the destruction being complete and final. Every other Cretan town was burned and in one stroke the Hellenic leadership of the Aegean was established. The so-called Mycenean age unearthed by Schliemann followed. Deprived of Cretan leadership, the Aegean world began to degenerate. Art, science, sculpture and architecture all suffered.

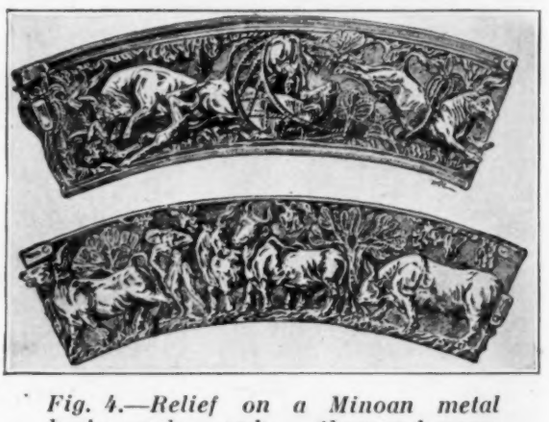


Fig. 4.—Relief on a Minoan metal basin made nearly a thousand years before the vase shown in figure 1.

There might have been enough leaven remaining to carry on, but in 1200 B. C. another more savage Greek race arrived, the Dorians. Every city in the land and island was sacked, and few ever recovered. A dark age followed, lasting nearly 700 years, comparable in every way to that which ensued when Rome succumbed to the cousins of the Dorians, the Teutonic barbarians.

As the Greeks advanced into the more cultured Aegean, they learned to use metals and, having no name of their own, applied the current Cretan terms for copper, lead and gold. Even iron, previously supposed to have been introduced by the Dorians, bears a non-Greek name, "sideros." It seems safe to assume, therefore, that these early Greeks were in a state of culture in which the science of medicine was unknown. Did they suddenly invent it in the fifth century B. C. or was it a renaissance of

Fig. 5.—A goblet of steatite, or soapstone, which depicts a Minoan chieftain reviewing his troops.

the almost extinct culture of the Minoans? Let us examine more minutely this old culture and search for the seeds of it, which lay dormant for 600 years.

In the first place, the Minoans could and did write beautifully and fluently (fig. 6). Whole libraries are preserved, especially at Knossos, dating from the fifteenth century, B. C. Much of the writing was done on clay tablets, but the flames of the destruction of the city baked and preserved them for eternity. Not only was this crude method used, but pen and ink were invented. Real split pens such as are now used left their marks on inscribed vases. That their writing was not confined to a small priestly class was shown by the innumerable tablets and seals of small shopkeepers found in the humbler dwellings. Unfortunately this script is not yet deciphered, but about 120 words of the language are known thus far and it is quite astounding to learn that nearly half of them are quite familiar to the modern doctor. One of the most interesting studies is that on a room containing elaborate paper work of some unhappy quartermaster of the Royal Chariot Brigade. The numerous lists and accounts have revealed to us the secret of the numerals and one is astonished to find that the system is a decimal one in the purest sense, and numbers up to 19,000 have been found. This system of notation is far superior to anything found developed by the Greeks or the Romans.

Fig. 6.—A "page" from the archives at Knossos, about 1450 B. C.

Fig. 7.—A figure eight shield later than the script above.

Probably the most striking discovery, however, is the so-called Phaestas disk, a clay tablet in which the letters are not simply graven but actually printed with movable type.

The sanitary knowledge exhibited in the palaces at Knossos and Gournia is impressive. They had an elaborate system both of the water supply and drainage in which real tile pipes were used, which distributed water to various rooms, and corresponding sewers flowed into the seas and rivers (fig. 9). Actual bathrooms were found with real lavatories, which, on being cleaned out, are used today by the workmen engaged in the digging. Glotz states that the sanitary conveniences unearthed in Knossos were not equaled in Europe until the nineteenth century (fig. 8).

In keeping with these attainments is the fact that the curative value of play was thoroughly understood. The idea "Mens sana in corpore sano" crops out in an astounding number of carvings and paintings. Every town had a vast

Fig. 8.—Sections of a tile pipe from Knossos. (Both illustrations from Baikie's Sea-Kings of Crete, Adams and Charles Black, London.)

Fig. 9.—Bathroom excavated at Knossos.

stadium, not like the Romans, for purposes of torture, but for play. Track meets were held, real competitive athletics. Running, jumping, boxing are common subjects for vase decorations and mural paintings (fig. 10).

The human body is studied and lovingly pictured with infinite grace. Statuettes showed the attention paid to form. Bull fights were common, but not in the brutal manner. The game seemed to be vaulting and turning of somersaults and handsprings over the horns of the enraged animals. Both men and women took part in these contests and they must have been a prominent part in the life of the times, as this bull vaulting was one of the commonest subjects for Cretan artists. These contests were undoubtedly the ancestors of the games instituted at the tiny Greek city on the ancient Minoan site of Olympia in 776 B. C.

Fig. 10.—A famous vase picturing a boxing contest.

About such body building centers there grew public health institutes, the so-called "asklepia." These were sacred to the Cretan mother goddess, generally depicted with a snake in her hands (fig. 3). Most of these institutions were changed to temples of Zeus or Apollo, as the famous one at Delphi, and it was Apollo who took on the snake attributes and carried the caduceus. The asklepia numbered sixty-four in Hippocrates' time, and later increased to 400. The plant consisted of temples, hospitals, baths and athletic fields. These sanatoriums occupied high and healthful places and often marked the site of springs. Flesh scrapers used by the masseurs in these Turkish baths were called by Cretan names, even in Greek times. It is at one of these asklepia that suddenly the mists of antiquity were parted by the sudden appearance of Hippocrates, who seemed to wear the mantles of high priest and geheimrat. He was of the hereditary high priesthood of Asklepios. Analysis of this word, however, gives us a clue to the origin of the cult "Asklabos" (a lizard or crawling thing), which was simply an earlier personification of the Cretan snake worship.

Let us see if we can reconstruct the history of the Asklepion at Kos. Prior to the twelfth century there existed a Cretan sanctuary and sanatorium sacred to the mother goddess with her snake and healing attributes. With the fall of Knossos there came strange uncouth Greek pirates—large heroic figures, "the horse-taming Achaeans" of Homer. Three of Hippocrates' mythical ancestors have horse (hippo-) names. Later on the Dorians mixed in the chaos. Hippocrates' great-grandfather was Heraklides, one of the oldest of the Dorian families. Contemporary Egyptian records for one hundred years describe the turbulence and constant war in the Aegean. "The people of the sea were on the move, and chaos and battles filled the islands."

After the catastrophe, a Greek family emerged as chieftains in Kos. The sanatoriums and temples were reopened, as the possibility for profit was too good to let slip. Seven hundred years of darkness ensued, but from the conquered the victors had slowly recovered the seeds of science, added their own ideas, and finally a publication was made of the great Hippocratic treatises, which represent the accumulated traditions concerning the medicine of a bygone age.

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SIMPLE LESSONS *in* *Human Anatomy*

By B. C. H. Harvey

LESSON XV (CONT.). CENTRAL NERVOUS SYSTEM, BRAIN AND SPINAL CORD

THE outer surface of the brain has been known for centuries and also the general relations of its parts. These were shown in figures 186, 161 and 162. It will be noted that there are two great enlargements, the cerebrum and the cerebellum, and that the latter has three peduncles, or stalks, connecting it with the midbrain, the pons and the medulla oblongata. The internal structure is exceedingly intricate, but follows a simple general plan which appears distinctly in the brains of human embryos. Three stages in its development are shown in figures 187, 188 and 189. Figure 187 is from an embryo about five weeks old. It shows clearly that the brain is simply the upper end of the neural tube and that the central cavity is very large at this stage.

Fig. 187.—Brain of a human embryo five weeks old. It is a thin walled tube. The ear is shown at the side and above it two sensory nerve ganglions derived from the neural crest. Magnified 80 diameters. (From Fischel, Julius Springer.)

Figure 188 shows the brain of a slightly older embryo (second month). In it may be seen the masses of nerve cells, or ganglions, derived from the neural crest (fig. 190). From them the neurons of the sensory nerves grow outward to the skin or other parts (for instance, the internal ear, which is shown growing in from the surface ectoderm) and inward to the dorsal part of the brain. The retina is seen anteriorly growing off from the forebrain, of which it is just an extension.

Figure 189 represents a human embryo ½ inch long and 3 months old, and already the two main expansions of the dorsal part may be clearly seen. The more anterior one on each side is destined to become enormous, growing dorsalward and downward till the right and left ones meet, unite, and grow downward together till they cover over all the brain stem and lie in contact with the posterior enlargement, the cerebellum.

The human brain in these early stages is like the brain of lower vertebrate animals, and it is from this form that the brains of the human adult and the higher vertebrates have been derived by expansion of parts of their dorsal walls. This relatively simple tube is therefore called the brain stem, or old brain, and the great expansion of the end-brain, characteristic of man, is called the new brain. In the old brain and spinal cord lie the nervous direction of functions that we share with lower animals. In the new brain is the nervous mechanism concerned in the higher activities of human life in which we differ from lower animals, such as imagination, consciousness and intellect in general.

The six parts into which the brain is divided are shown in figure 191 as they appear at the first month of embryonic life. They are the end-brain, intermediate brain, midbrain, isthmus, hindbrain and after-brain. A little groove marks off the ventral motor part from the dorsal parts. It is called the limiting sulcus. Quite at the upper end of the tube is the olfactory brain called rhinencephalon, which receives the olfactory nerves. Later stages of development are shown in figure 192 (5 weeks), figure 162 (third month), and figure 193, the adult. All show the brain as it appears in median sections. The important point in these pictures is the great growth of the new brain, or pallium, on each side. It grows in every direction,

Fig. 188.—Brain of a human embryo two months old. It shows the retina growing out from the forebrain, the ear and three sensory nerve ganglions. Magnified 44 diameters. (From Fischel, Julius Springer.)

and extends steadily downward over the brain stem, till it overlies the cerebellum. While it is growing backward, a great tract of fibers grows across from the right pallium to the left pallium connecting them closely with each other. This is the corpus callosum (fig. 193).

When this mass on each side has grown big it is called the cerebral hemisphere, and since it grows from the side of the end-brain it is always connected anteriorly with the walls of that structure. The cavity of the neural tube appears in figures 191, 192, 193 and 163. It is filled with the cerebrospinal fluid. In the adult the cavity has four expansions, called ventricles, an extensive one in each cerebral hemisphere (figs. 193 and 194) connected on each side by a narrow opening in front of the interbrain with the third ventricle. The fourth expansion (ventriculus quartus) is in the hindbrain and after-brain. Holes in the roof of this ventricle allow the fluid to pass out and to communicate with the fluid bathing the outer surface of the brain and cord within the membranes. It is this fluid that is withdrawn in lumbar punctures. The total amount of it is about 6½ ounces, including that inside the brain and also that under the membranes.

The brain stem can be seen best after the cerebral hemispheres and cerebellum are removed (fig. 195). A median section with the cerebellum attached is also shown in figure 196. Its ventral surface with the nerves attached is shown in figure 160. In the course of evolution of animals the brain stem has grown steadily at its upper end. Below, next to the cord, is the medulla oblongata (after-brain). Above it is the pons in front and the cerebellum behind (hindbrain). These two parts contain the expanded cavity, the fourth ventricle. The three stalks that the cerebellum has on each side are all cut in figure 195. They connect it with the medulla, the pons, and the midbrain respectively. Next above is the midbrain with the four eminences on its dorsal surface. These eminences are called the colliculi, or little hills, or the two pairs of twins (corpora quadrigemina), the pregemina in front and the postgemina behind. The ventral parts of the midbrain contain the two great stalks of the end-brain (crus, or peduncle). At the upper end is the interbrain and on each side of it the great mass of nerve tissue called the thalamus with its overhanging posterior end, called the pillow (pulvinar).

Above the brain stem is the end-brain with the olfactory nerves at its tip. Its dorsal surface is enormously expanded into the two cerebral hemispheres (fig. 197). At the base of each hemisphere is a definite mass of nerve tissue, the corpus striatum, which connects it with the thalamus at the upper end of the brain stem.

Like the spinal cord, the brain is made of nerve cells and nerve fibers. The cells are arranged in groups connected by the fibers. The small groups of cells which constitute the nuclei of cranial nerves have already been shown (fig. 177). Others are found as shown in figure 198 in which nothing but the masses of nerve cells is represented. The white areas are occupied by fiber tracts. As in the cord, the cells, or gray matter, are internally placed, except in the cerebral hemispheres and cerebellum, where a thin layer of cells spreads itself over the outer surface. This surface is greatly increased in area by the convolutions and the furrows between them and by the folding of the surface (fig. 153). The total surface is about 352 square inches, or 2½ square feet. The thickness of the cortex is about ⅐ inch and the number of nerve cells in it over 9,000 million.

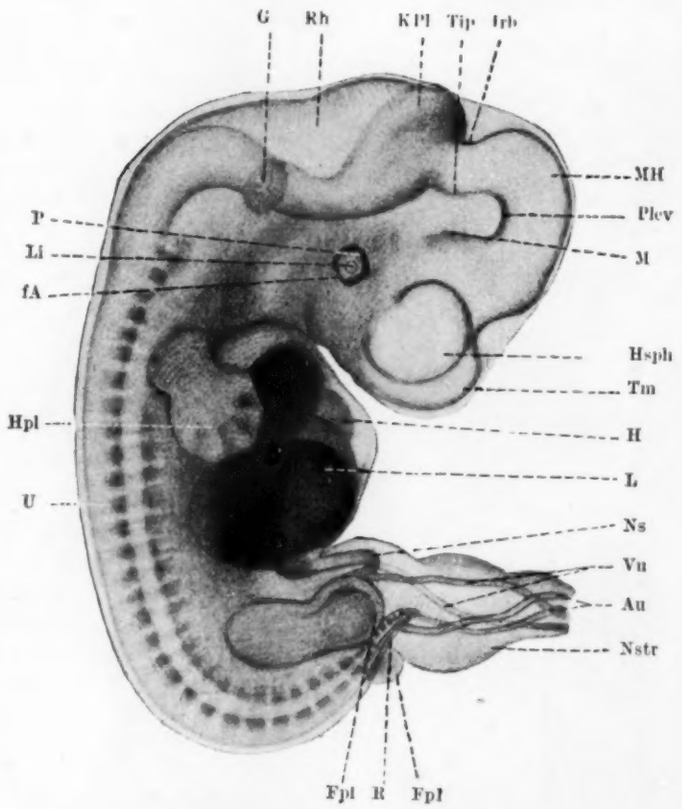
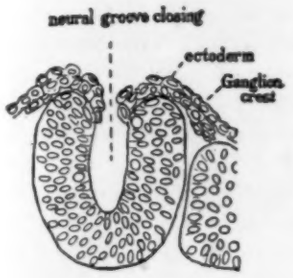


Fig. 189.—Human embryo three months old. Hsph, cerebral hemisphere beginning to grow from the end-brain; MH, midbrain; Irh, isthmus; KPl, cerebellum; Rh, fourth ventricle; G, ear; fA, eye; Hpl, arm and hand. Magnified 7½ diameters. (From Fischel, Julius Springer.)

A few of the fiber tracts are shown in figure 199. Many of these are well known and their connections have been almost completely worked out. But it is difficult work since the fibers are microscopic in diameter (1/2,000 inch, 1/10,000 inch in case of sympathetic fibers) and may be of any length up to 3 feet. The tracts running between brain and cord are well known, but there are many "association" fibers (fig. 200)



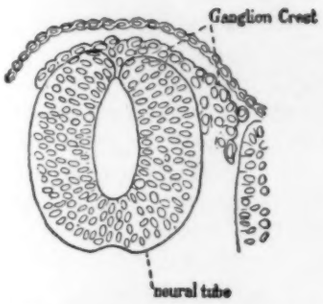


Fig. 190.—Diagram of sections through the neural tube when it is first formed (three weeks old). It shows the two neural crests and the ganglions formed from them. Compare with figure 151, June number, which shows this embryo in full. (From Morris' Human Anatomy, Blakiston.)

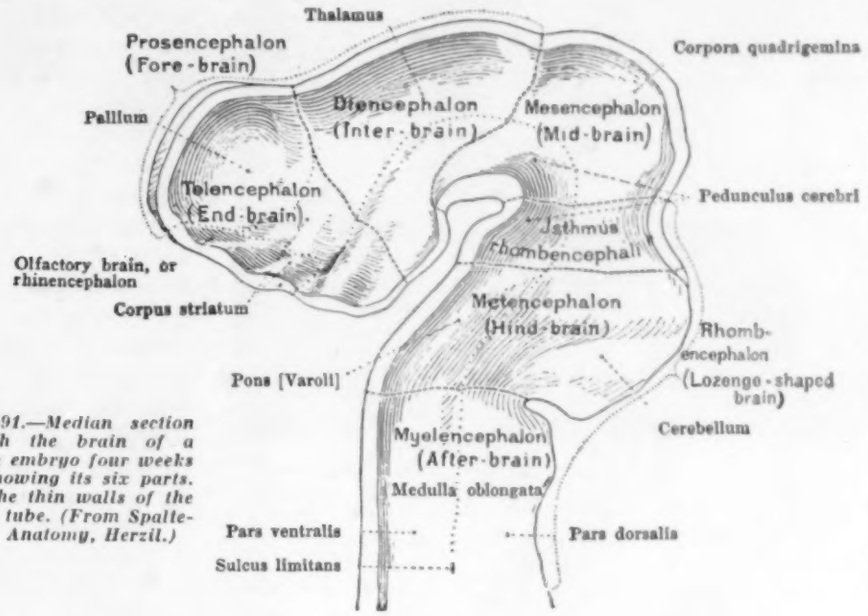


Fig. 191.—Median section through the brain of a human embryo four weeks old, showing its six parts. Note the thin walls of the neural tube. (From Spalteholz' Anatomy, Herzil.)

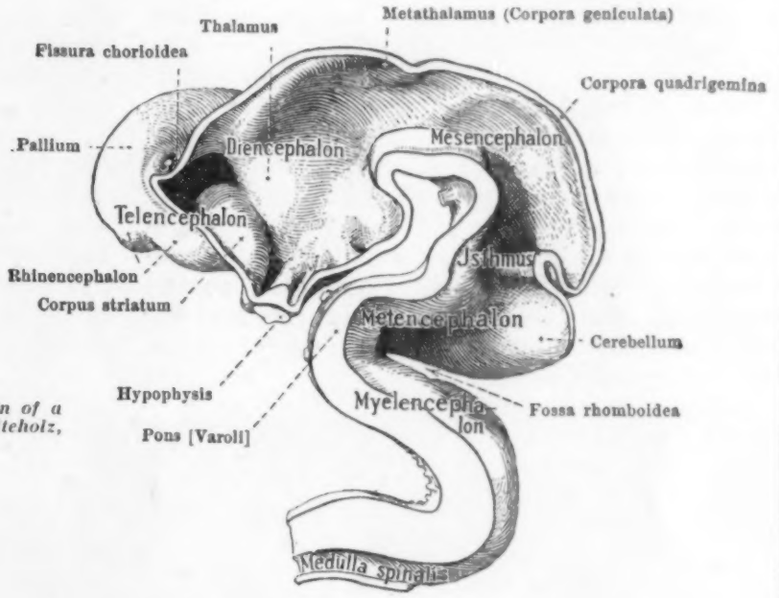


Fig. 192.—Median section through the brain of a human embryo five weeks old. (From Spalteholz, Herzil.)

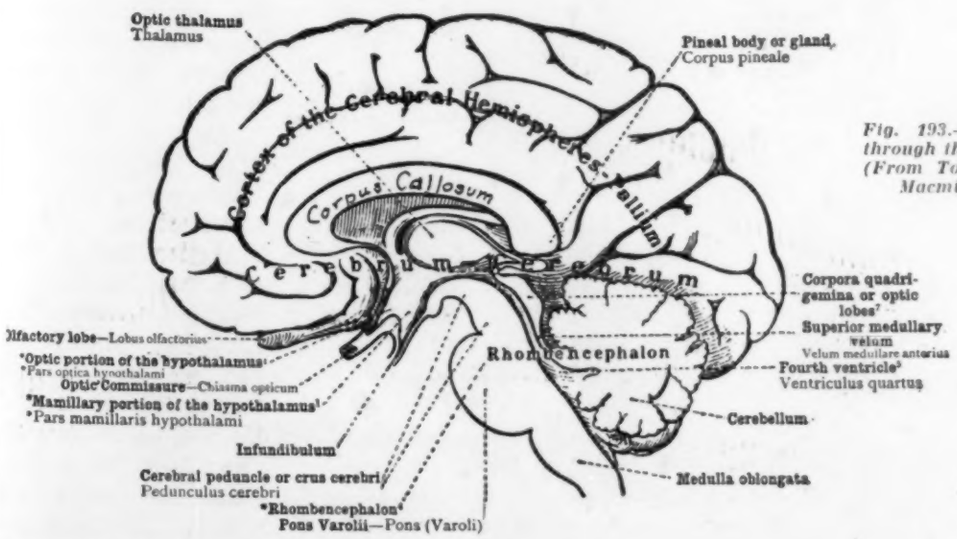


Fig. 193.—Median section through the brain of an adult. (From Toldt's Anatomy, The Macmillan Company.)

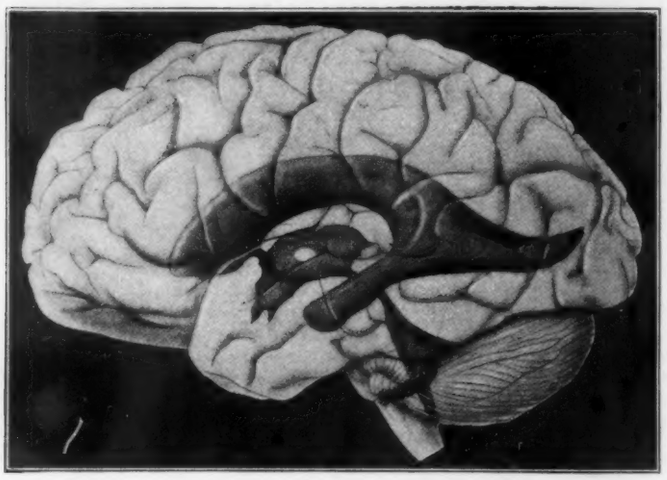


Fig. 194.—The cavities, or ventricles, of the left cerebral hemisphere and brain stem of an adult. The brain is represented as transparent, with the cavities showing black. (From Gray's Anatomy, Lea and Febiger.)

connecting various parts of the cortex with one another and with all other cell masses on which anatomists will have to work for many years before they are untangled and their connections revealed.

But these cells and their connections determine our bodily and mental lives. Our characters—animal, human and individual—are inherent in the structure of our central nervous systems. The animal part of us lives in its lower levels—the sympathetic subdivision, the spinal cord and the lower brain stem. The human part is in the upper brain stem, the corpus striatum and in the cortex of the cerebrum; our individual characters are in the cerebral cortex. The upper end dominates all that is below it. It has to, for all sensations are reported to the upper end and combined there. It is the office of control, and in the series of vertebrate animals the office moves steadily upward. This highest office is in fishes in the midbrain, in amphibians in the thalamus, in reptiles in the corpus striatum; in mammals and especially in man it is in the cerebral cortex. In the course of evolution these higher centers have always grown out of the ones immediately below, and they must work through the lower ones by which alone they are connected with the body.

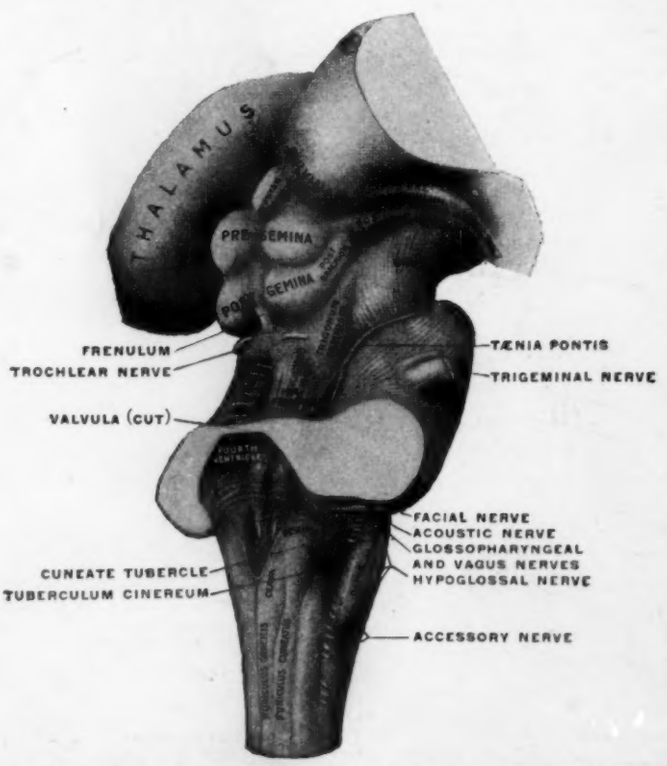


Fig. 195.—The brain stem, or old brain. The cerebral hemispheres and cerebellum have been cut away. (From Gray's Anatomy, Lea and Febiger.)

We inherit our bodies and the lower parts of our nervous systems from more humble ancestors and in these we are like them. We see and hear and feel like them. Our muscles and our arteries are like theirs. All but the highest parts of our nervous systems are like theirs. But we have many more masses of intermediate cells at the higher levels of our brains.

The interposition of these between our sensory nerves and our active engines gives us fuller lives, volition and individuality. As we go down the scale of vertebrates there is a tendency to uniformity of conduct; individuals are all alike. As we go down the human central nervous system and look at our bodily activities controlled by successively lower parts of it the same is true—uniformity below, variability above. Beginning below, the sympathetic system directs the local reflexes of digestion and of blood supply; these are automatic and are similar in all animals. The spinal cord effects the involuntary reflex movements of the body, as in withdrawing a part that is hurt. The medulla oblongata directs more elaborate movements, like the pumping of the heart, breathing and the coordinated activities of the digestive laboratories. The cerebellum adjusts locomotive activities to our positions and movements, receiving information as to the state of our muscular engines and giving to their actions vigor and precision. In the midbrain are inherited instincts, social habits and eye and ear reflexes. In the thalamus are general adjustment to ear and especially eye sensations, and there also begin individual identity with general feeling of discomfort or well being, simple emotions, fear, individual habits, and the rudiments of learning by experience. In the corpus striatum are complex instincts and the coordination of muscles to bring about general movements. In the cortex are sense of space and time, memory, judgment, consciousness, volition, control of emotions and the lower motor centers. The latter are efficient mechanisms each capable of carrying on its own performance when it gets its cue. It is the cortex that decides which shall be set off and when. The language center is in the cortex;

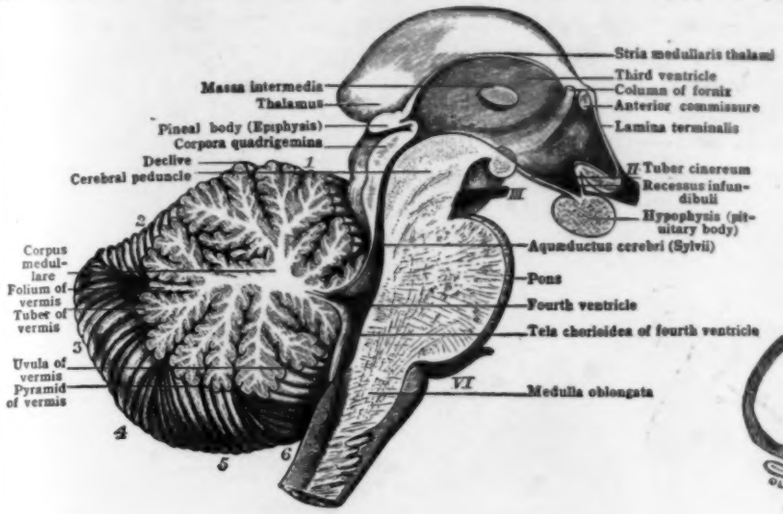


Fig. 196.—Median section through brain stem and cerebellum. (From Morris' Anatomy, Blakiston.)

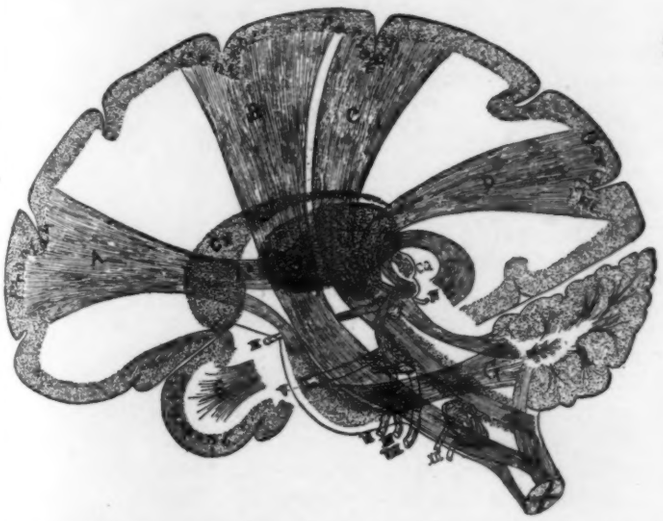


Fig. 199.—Diagram of some of the fiber tracts in the cerebral hemispheres and brain stem. (From Gray's Anatomy, Lea and Febiger.)

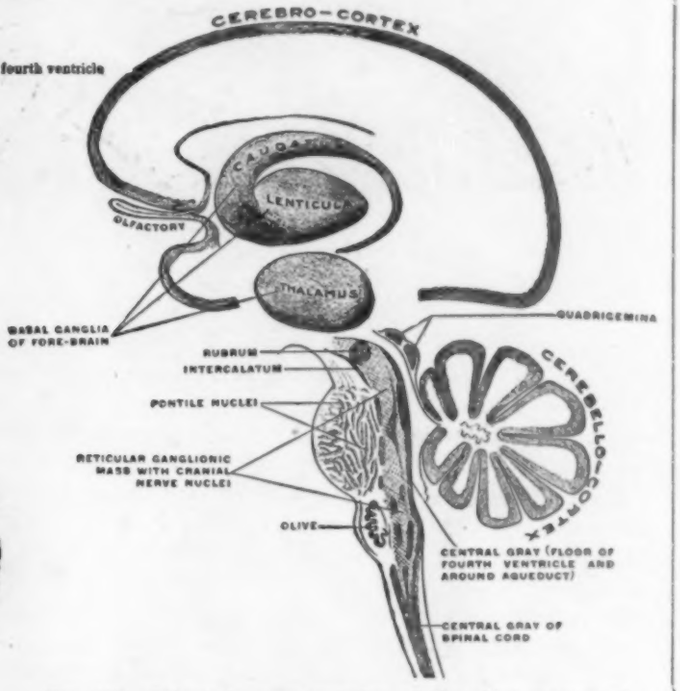


Fig. 198.—Schematic representation of the chief masses of nerve cells in the brain. The caudatum and lenticula are parts of the corpus striatum. (From Gray's Anatomy, Lea and Febiger.)

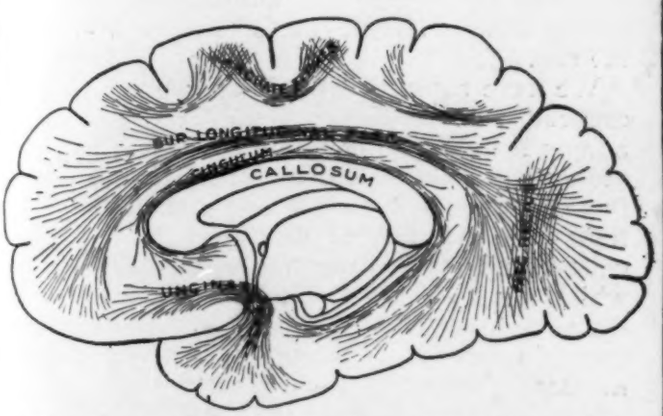


Fig. 200.—Some association fibers within the cerebral hemisphere. (From Gray's Anatomy, Lea and Febiger.)

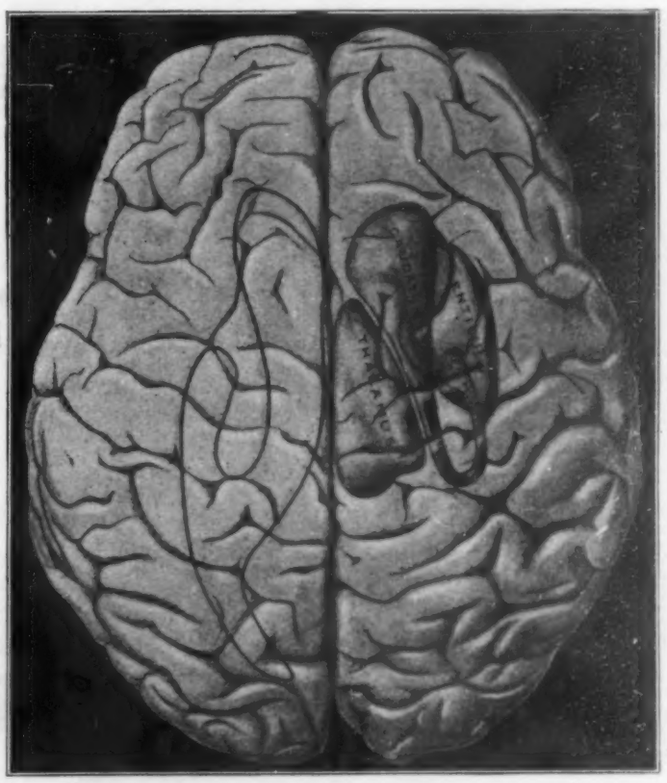


Fig. 197.—Cerebral hemispheres seen from above. They are represented as transparent, showing through their substance on the left the ventricle of the left hemisphere, on the right the right corpus striatum (caudatum, lenticula and amygdala) just above the top of the brain stem (thalamus). (From Gray's Anatomy, Lea and Febiger.)

the cortex also contains the sense of social relationships.

The cerebral cortex is essentially an organ of the mammals, and in the progress toward higher animal forms it becomes rapidly more extensive. In the reptiles and lowest mammals control of intentional movement lies in the corpus striatum but in the higher ones it passes out to the cortex. So also do sensory perceptions, which thus become far more discriminative because of the greater number of perceiving cells. Relatively little of the cortex is motor (fig. 201). The sensory part of it is spread out like a moving picture screen on which is thrown the moving panorama of the outer world. Unlike older masses of nerve cells, it grows as a thin layer on the surface where its wider spread offers opportunity for far more fibers to reach it and for the separation of anatomical and functional areas. Over 100 different areas have been anatomically distinguished. Functional areas have been mapped out tentatively as indicated in figure 201. This means merely that injury to one of these areas impairs the function associated with it. The area is involved in the function probably by synthesis of stimuli of various kinds which enter it or traverse it. Between the functional areas are association areas, and in these are situated other departments, such as record and judicial.

All parts of the cortex of both hemispheres are connected in the most intricate way. The 9,000 million cells are connected by more than that number of fibers. Special experiences force nervous impulses along some of the possible ways, and their passage results in structural changes which leave an enduring record and a tendency toward repetition. Just as muscles are strengthened by systematic exercises, so cerebral pathways are made easy by experiences. It is said by a great neurologist that cells and processes grow as a result of activity, while inactivity leads to resorption, or forgetting; but this is hard to prove. The cells become smaller after middle age and the weight of the brain is decreased (about 3 per cent from 40 to 80 years of age).

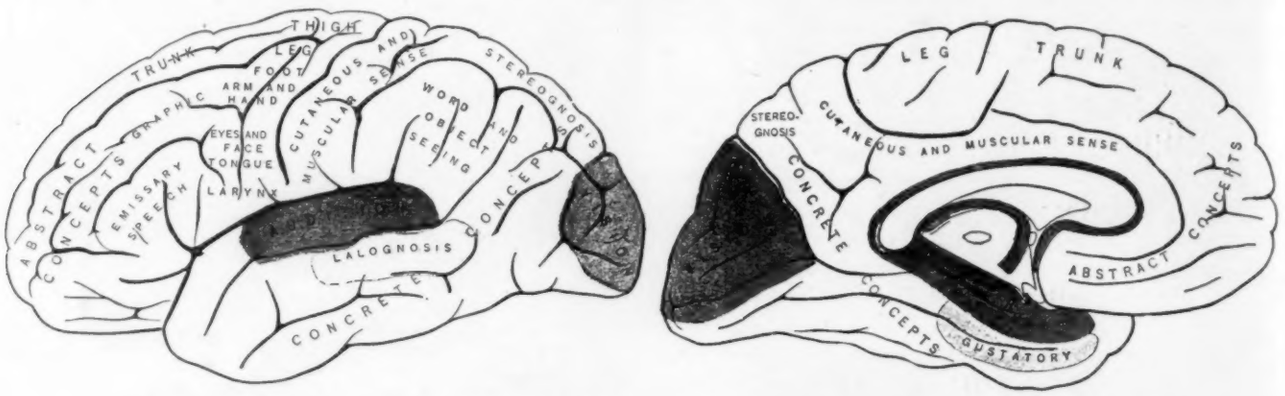


Fig. 201.—Some functional areas of the cerebral hemispheres. (From Gray's Anatomy, Lea and Febiger.)

The motor area of the cerebral cortex receives fibers from other parts of the cortex and discharges its stimuli into the executive part of the nervous system in the anterior region of the brain stem and spinal cord. In this way it is in control of the series of motor centers and they in turn control all the engines of the body. It is the motor area in the cortex in the new brain that presides over the harmonious cooperation of these billions of separate engines. Lower centers farther down in the old brain conduct activities of individual parts in the old way—the way in which centers like them directed the activities of reptiles and amphibians long ago, but in man it is the motor cortex that gives the cue.

We have compared the body engines with an orchestra. The cortex writes the score and adapts it to changing conditions. Just as in an orchestration some old air often repeated may form an underlying motif and give character to the whole, so each of the lower centers when called on by the cortex plays its old, old tune which has come down like old folk songs from the ancestors of our race. The function involves repetition and association. Out of our animal heritage the cortex makes us men.

Underweight Children in Seattle

By

Walter W. Davis

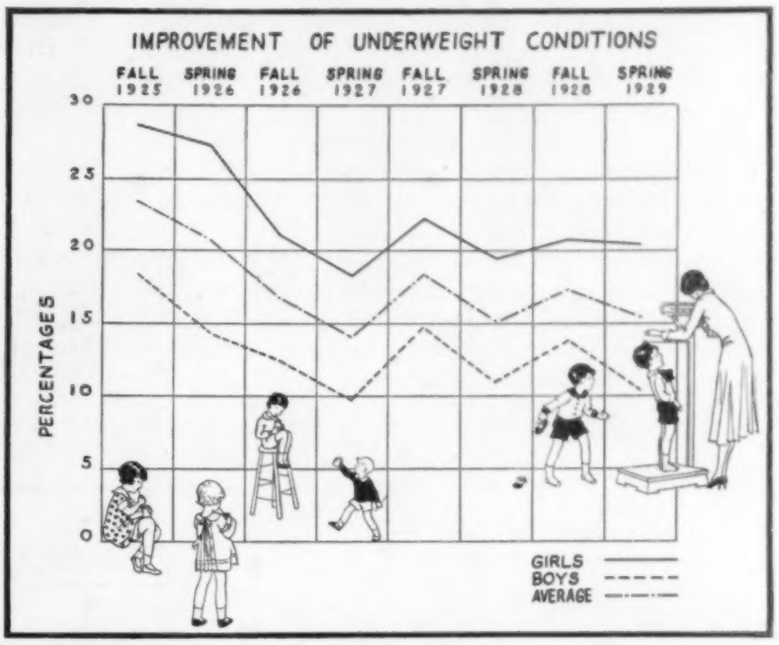


Chart I.—The lines represent the percentages of underweight children found in Seattle schools during a period of four years. Many more underweight girls were found than underweight boys. The first half of the campaign brought fine results, but these were not continued to the close.

MEASUREMENTS of 35,000 grade school children of Seattle in 1925 showed that 23.8 per cent, nearly one in four, were seriously underweight according to accepted standards. It has been hard to explain such a relatively high rate of underweight children in view of Seattle's low death rate and her claim to the title of the healthiest large city in the United States. For the United States census reports show that the infant mortality rate for Seattle was only 45 per thousand both in 1925 and 1926, which is the lowest rate of all cities in the United States with a population of more than 250,000. The mortality rate for all ages was 10.05 in 1925 and 9.8 in 1926, the lowest of any large city in the world.

In a consideration of these facts several questions suggest themselves.

Are all or many of the children who are classed as underweight really undernourished?

If there is serious undernourishment among Seattle children can the condition be substantially improved by health education methods at our command?

If there is not serious undernourishment present, are many Seattle children underweight because of an excess in our population of certain racial, class or occupational types?

Or is the condition due to a phase of rapid growth at certain periods in children reared in this section?

Or is there developing on the Pacific slope a type of child who, because of climatic conditions, is taller and more slender than his eastern cousin?

Is it fair to Seattle children to compare their measurements with those of children of different racial stock and different climate?

During four years, from 1925 to 1929, a concerted effort was made to reduce the number of underweight children in the Seattle schools. Teachers, principals, parents, the medical department, the physical education department and the pupils themselves united their forces in what has appeared to all of us a worthwhile endeavor.

Pupils are weighed by the classroom teacher or by the teacher and school nurse working together or by the physical education teacher. The weighing is done twice each year, about October 1 and March 1. The instructions given to those in charge have been identical over the whole period of four years.

Children are weighed and measured in their ordinary clothes minus coats and sweaters. Age is taken at the nearest birthday, height at the nearest inch and weight at the nearest pound. A special chart was made up from the Wood-Baldwin tables, which enables the teacher to tell at a glance whether a child is more than 10 per cent underweight or 20 per cent overweight when compared with the standard weight for his age and height.

The teacher, after checking her record, makes a list of the names of pupils who are more than 10 per cent underweight or more than 20 per cent overweight and sends the list to the school nurse. The nurse gives the children in this group a careful physical examination and reports her findings to the teacher and principal. The principal, by a form letter, may call the child's parents for a consultation with the nurse.

The nurse makes one of three decisions for each child:

The child, while underweight, may be well nourished and is so reported to the teacher.

The child may be suffering from a physical handicap, such as diseased tonsils, which hinders proper gains in weight. In this case the parents are notified and urged to take steps to remove the handicap.

The child may have poor home care or bad health habits; in which case, parent, nurse and teacher unite to improve health conditions and health habits.

From twenty to thirty minutes per week are scheduled in all grades for instruction in hygiene. Textbooks are furnished in grades six, seven and eight. A monthly outline is furnished to teachers in the lower grades. Pupils and teachers have access to good reference and reading books covering all phases of hygiene.

In about half of the grade schools hygiene instruction is given by the teacher of physical education, in the rest by the classroom teacher. Correlation between hygiene and physical education is close in all schools.

Children are inspected each morning for cleanliness, either by the teacher or by pupil monitors. Pupils suspected of contagion are sent immediately by the teacher to the nurse, if she is in the building, or to the principal.

In support of the general organization of health in the schools, it has seemed necessary to use certain concrete means of stimulating the child's interest in his personal health. Pupils have access to the weighing scales so that they may note gains and losses in weight. This is a big asset in securing the cooperation of children. The making of health posters and health books is encouraged by the department of fine arts. Schools are encouraged to produce health playlets and health rhymes. Posture contests are carried on in many of the schools each year. A few schools have conducted regular health campaigns. A flourishing Public Schools Athletic League furnishes zest to health training.

By special arrangement with dairies, milk is delivered at the buildings before 10 o'clock so that every child who needs it may have a glass of milk at mid-morning. It is arranged also that needy children may get the milk without charge. This morning lunch has proved the best single means of securing gains in weight and presumably of promoting health.

Teachers report the results of their weighing and measuring to the school principal, who in turn sends a report for his school to the central office. His report shows the number of boys and girls in each room and the number of underweights and overweights. The school reports are compiled for the city percentage.

The results of the four-year project, expressed in terms of reduced percentages of underweight children, are not startling. The percentage in October, 1925, was 23.8 per cent; at the end of the fourth year, in March, 1929, it was 15.3 per cent. The result is shown in graphic form in chart I. The line drops sharply for a year and a half, when a mark of 14 per cent was reached. Since that time the line has been trending upward in the fall and downward in the spring. At present we seem to be just about holding our own. Any improvement from now on, it appears, must come only from more concentrated effort on the part of all concerned in the campaign. Or if we have reached the limit of improvement, with the use of such methods as we have at our command, then there must be some factors at work that have vitiated our efforts or rendered them ineffective. A critical examination of the figures throws some light on such presumptive factors. Some interesting sidelights are also shown.

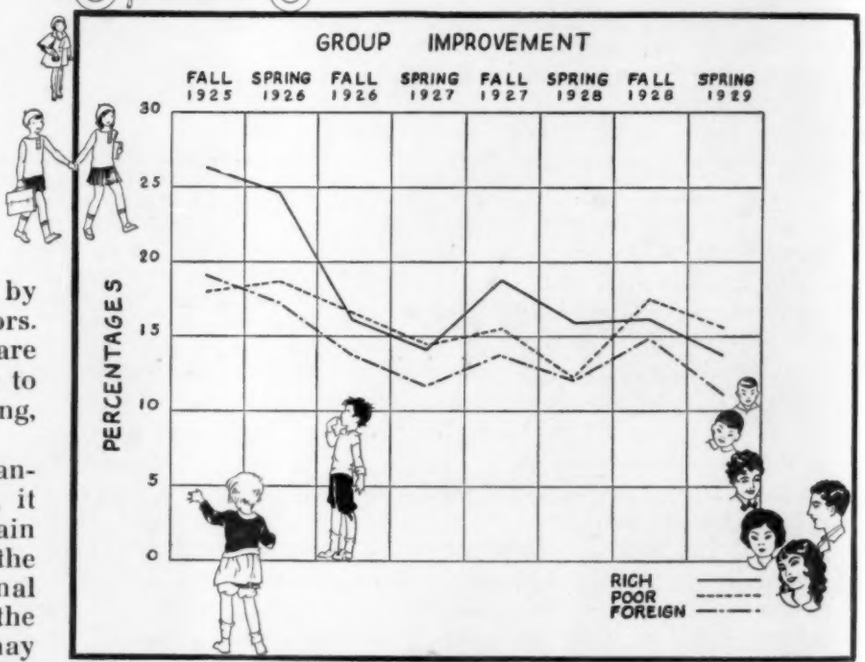


Chart II.—A comparison of three groups. The children from rich homes showed a high percentage of underweight at the beginning but made fine improvement during the four years of the campaign. The groups of poor and foreign children did not improve so much, the foreign group being consistently low in weight because of racial type.

The last part of the line in chart I indicates that school life is favorable to gains in weight, since the measurements taken in the spring show fewer underweight children than those taken in

the fall. Children tend to run wild during the vacation. Sleep, meals and activities are irregular with a consequent bad effect on the child's health.

The tendency to lose weight in summer was noticeably shown in school A. This school is located on a point of land in Puget Sound. The shore is one continuous bathing beach. Swimming in the cold waters of the sound is the favorite summer sport. Chart III shows clearly what happens. In addition to the irregular habits of living during the summer, there is the constant temptation to swim in cold water. Consequently there is a wide variation in weight among these children between spring and fall measurements. Swimming long hours in cold water is not conducive to putting on weight.

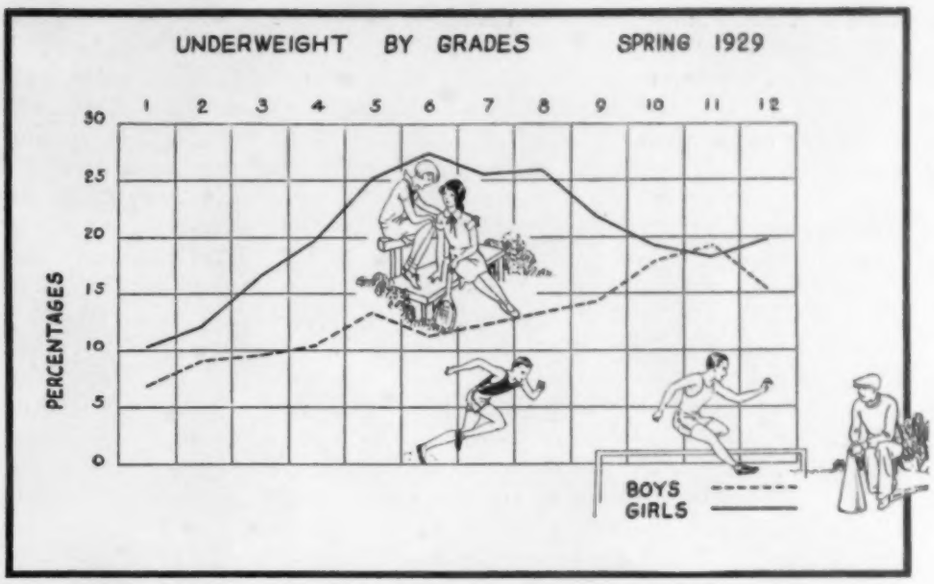


Chart IV.—The percentages of underweight boys and girls throughout the twelve grades. The peak for underweight girls is found in the sixth grade; for underweight boys in the eleventh grade.

Regular habits of living were shown to have a direct effect on child weight. This is evidenced by the fine records of the boys' and girls' parental schools. The average number of underweight children for the two schools for the eight measurements during four years was 3.5 per cent. Regular hours for eating, sleeping and exercise, with no opportunity to break over in any particular, seems to be clearly responsible for a condition of health far superior to that of the average city child (lower line, chart III).

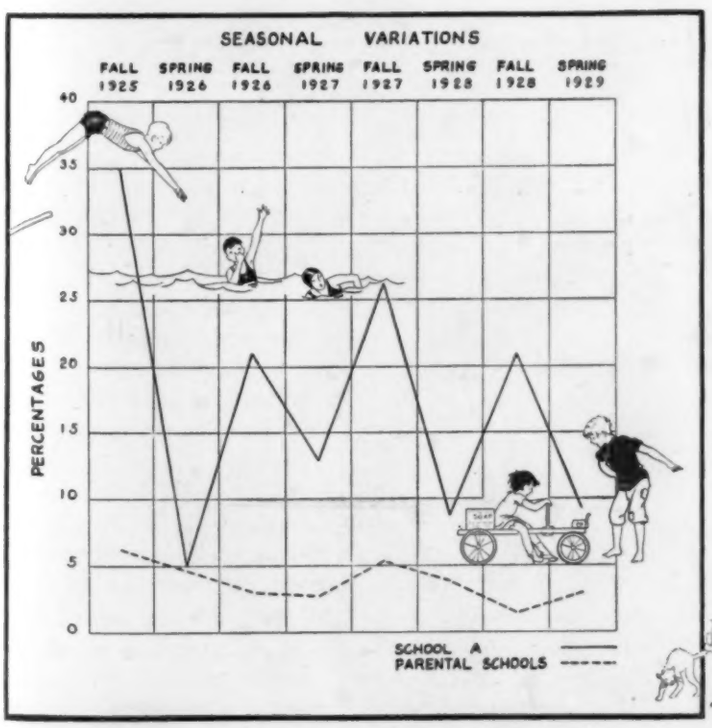


Chart III.—When spring and fall measurements are compared, marked variations in underweight percentages are shown. The results obtained through the regularity of school life are offset during vacation. This school is more irregular probably because of its proximity to a popular bathing beach in the cold waters of Puget Sound. On the other hand, the regular line for the parental schools indicates a comparatively low percentage of underweight children.

Interesting facts have developed when certain groups of children have been compared throughout a period of years. For example, after the first measurement, it was noted that in five of the rich residential districts of the city, 26 per cent of the children were underweight, as shown by the line marked group 1 in chart II, while in five of the poorer industrial districts, the percentage was only 18 per cent, as shown by the line marked group 3. Chart II shows the complete record of these districts with the improvements they made over the period of four years. In the rich districts the percentage of underweight children has been reduced to 13.7 per cent, while the gains made in the industrial districts were slight.

The rich districts took the matter of their poor initial showing much to heart and proceeded to mend their ways. It would seem that whatever factors at first operated in favor of the children in the industrial sections had been overcome by the homes of the other group when they earnestly set out, in cooperation with the schools, to improve child health.

The lower line in chart II represents a group of five schools where the pupils were

largely of Asiatic and southern European origin. The line is consistently low and is probably determined by the factor of racial type. Greek, Italian, Chinese and Japanese children, at least those found in this section, are stockier than American and northern European children. They weigh more for their height; hence we find fewer underweight children among them, when they are judged by standards now in use.

After compiling the measurements taken in 1925, it was noted that there were many more underweight girls than boys (see chart I). To determine, if possible, why this was so, the measurements were compiled by grades. It was found that the peak for underweight girls was always in the sixth grade. To clear up the matter further, in 1929 all the high school pupils of the city were measured at the same time as the grade school pupils were; that is, about March 1. A comparison was made and is shown in chart IV. In the chart are shown the curves for both boys and girls throughout the twelve grades of elementary and high schools. The maximum for underweight girls, 27 per cent, was reached in the sixth grade at approximately 13 years; for boys the maximum was 19.2 per cent, reached in the eleventh grade at 18 years.

It must be remembered that the Seattle measurements are compared with measurements taken in the East. There is authority for the statement that girls mature earlier on the Pacific slope than in the East. It may well be that the divergence of the lines in the sixth grade shown in chart IV is merely a phase of child growth peculiar to this region. For, if girls mature earlier here, they actually reach the slender stage of growth earlier and so compare unfavorably, in respect to weight for height, with children of the same age who are of slower growth. There is an added significance in the fact that the lines for boys and girls converge after the sixth grade and even cross when they reach the eleventh grade.

However, the fact remains that even when the lines cross in the eleventh grade 18 per cent of the boys and girls in Seattle schools are 10 per cent or more underweight according to standards established in eastern states. Whether this group of children is undernourished or whether a taller, more slender type of children and adults is developing in this section are matters that are undecided as yet. Some light may be thrown on this when further compilations, now being made, are completed.

U. S. Medical Schools Have High Standards

MORE than 21,000 students were enrolled in the seventy-five medical schools of the United States during the year ending June 30, 1930, according to the annual presentation of data on medical education published in *The Journal* of the American Medical Association.

New York leads the country in medical education, with nine colleges and 2,681 students enrolled. Pennsylvania has six colleges with an enrolment of 2,200; Illinois has five colleges with 2,200 students.

All the medical schools in the United States that are recognized as medical schools have met the standards for class A schools and the Association now makes no other classification.

All these schools are now requiring two or more years of college work for admission and each year more students are entering with the bachelor's degree. This year 70 per cent of all graduates held baccalaureate degrees, as compared with 15 per cent in 1910. The Council on Medical Education of the American Medical Association, which has fought for a quarter of a century for higher standards in medical education, does not recommend, however, that a college degree be made a requirement for admission to the medical course. Many students have not the time or the means to obtain the B.A. or B.S. degree, yet they are exceptionally well qualified to study medicine.

Eleven medical schools now require that students serve a year's internship before they receive the M.D. degree. As a matter of fact, however, 90 per cent of all medical graduates obtain this year of training whether they are required to do so or not, the report shows. Next year more than 4,000 men will be serving internships, three fourths of them voluntarily. The schools requiring the hospital intern year are: College of Medical Evangelists, Los Angeles; Stanford University School of Medicine; University of California Medical School; Loyola University School of Medicine; Northwestern University Medical School; University of Chicago, Rush Medical College; University of Illinois College of Medicine; Detroit College of Medicine and Surgery; University of Minnesota Medical School; University of Cincinnati College of Medicine; Marquette University School of Medicine.

An interesting fact brought out in the council's report is that the United States has more physicians in proportion to population than any other country in the world, 126 to each 100,000 persons. Austria comes second with 113 and Great Britain third with 111.

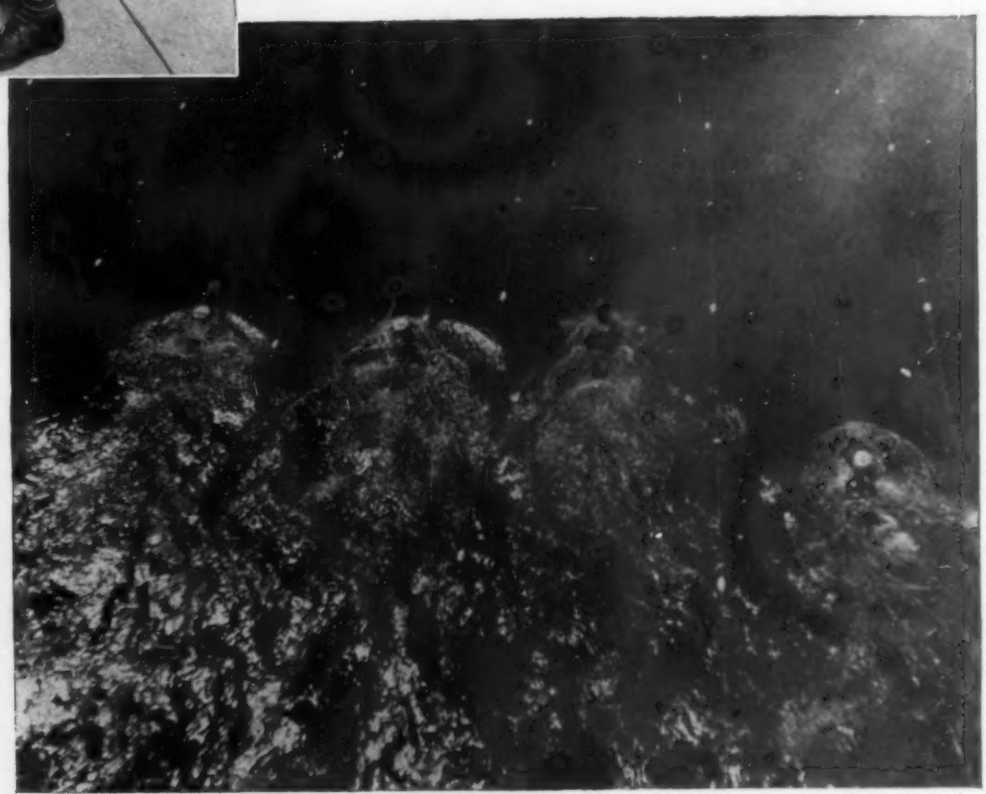
TABLE ETIQUETTE IN JAVA

Dinner guests in Java sit cross-legged on the floor, eat with their hats on and their shoes off. This picture shows a formal dinner held during a festival.

THROUGH THE LOOKING GLASS

These children will be spared much mental distress in later life because they have received treatment for their speech defects during their childhood. The mirrors are being used in connection with an exercise at the speech defect clinic of Temple University, Philadelphia.

MARGARET HOFFMAN WINS NATIONAL CHAMPIONSHIP FOR BREAST STROKE swim of 220 yards in Los Angeles meet.



All photos by Underwood and Underwood

Underwood and Underwood

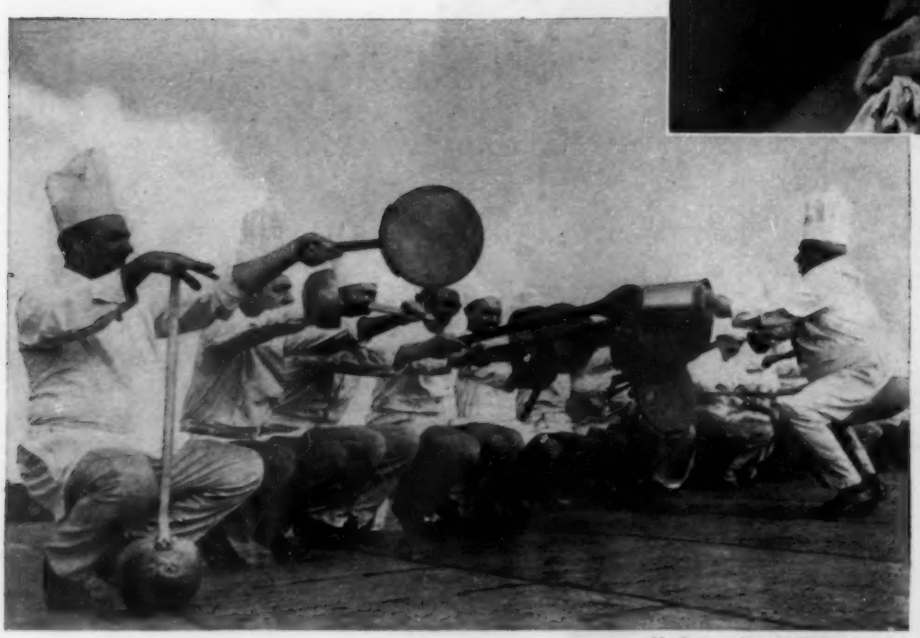
OPERATIC FOOTBALL TEAM

Singers of the Viennese opera are no dilettantes, as this picture proves. Their vigorous training is undoubtedly reflected in swashbuckling toreadors and menacing Moors on the stage.

Harris and Ewing

UNIQUE IN U. S. ARMY

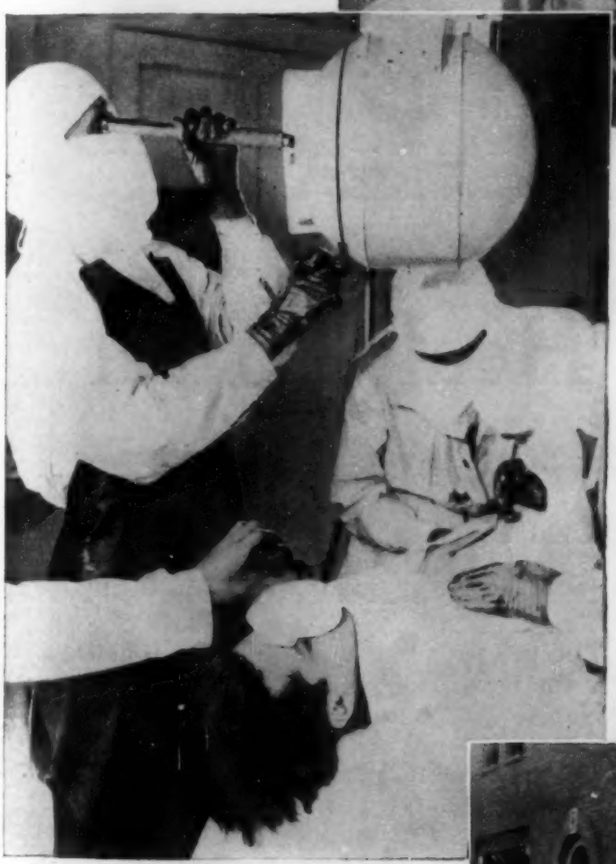
Major Julia Stimson, head of the Army Nurse Corps, is the only woman of her rank in the United States Army.



Underwood and Underwood

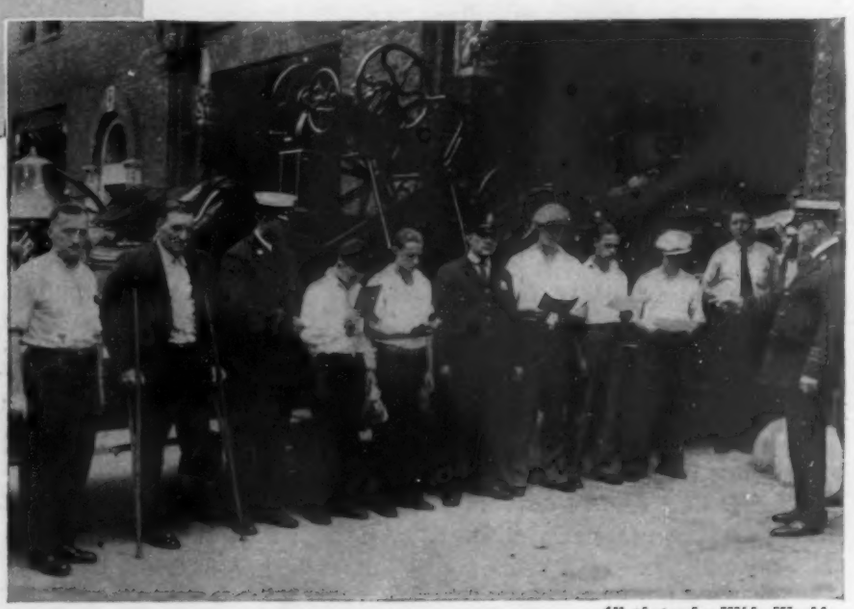
CALISTHENICS FOR COOKS

German chefs in their hours of ease take setting-up exercises using pots and pans as gymnasium paraphernalia.



THE MOVIES ENTER MEDICINE

Motion pictures now provide for medical students better views of the operating table than could ever be obtained from the old-fashioned amphitheater seat. The photographs here show a machine in action in a Berlin hospital.



FALSE ALARMS

Boys who thought it was funny to turn in false fire alarms in Philadelphia are here being confronted with the results of their acts. The fire chief has introduced them to two firemen who had their legs amputated answering false alarms.

All photos by Wide World

"The prisoner has been guilty of reading with the light not properly adjusted—to the detriment of sight."

A Syncopated Health Trial

By HAZEL McGEE BOWMAN

CAST OF CHARACTERS

JUDGE, wears black gown.
PIANIST, plays "Doll Dance" throughout entire performance.
BAILIFF, leads prisoners on and off stage in rapid succession.
DEFECTIVE EYES, wears colored glasses.
FLATFEET, very high heels; limps.
FOUL AIR FIEND, well wrapped; coughs and sneezes frequently.
UNDERWEIGHT, pale and languid.
PERSONAL NEGLECT, stringy hair; careless dress.

Act I

SCENE: Table in the center of the stage. *Judge and bailiff enter from right and left to the music of the piano. The music continues throughout the entire playlet and the tempo should not vary. The part of the Judge should be chanted in perfect time and in a sprightly manner. It is possible to do this and still give much expression to the words if a girl with a good sense of rhythm plays the part.*

JUDGE *(using gavel):*

The court will come to order. The prisoner, bring her in,
(Bailiff leaves and returns with prisoner.)
Let every one keep silence. All right, we'll now begin.
What charge is there against her *(pause)?*
You say that you expect
The painful case before us was caused by rank neglect?
The prisoner has been guilty of reading with the light
Not properly adjusted—to the detriment of sight.
No wonder that she suffers with pains behind her eyes;
I order them examined by a doctor good and wise.
She should have done it sooner—not as a last resort;
If there's any more confusion I'll have to clear the court!
I now pronounce the sentence *(rises).* Let every one take heed,
I find the prisoner guilty, and sentence her to read
No more without her specs on, for a year or maybe two—
We'll see just what a little care and common sense can do.
(Exit bailiff with prisoner, returns immediately with Flatfeet.)

JUDGE:

The case that's now before us is sad, as all can see.
Now, bailiff, tell me briefly just what the trouble be *(pauses)*.
Ah, ha, you say the prisoner is suffering with flatfeet,
Has corns and fallen arches and staggers down the street?
Young lady *(points)*, you keep quiet, I'll brook no smart retort—
I now pronounce the sentence. Order in the court! *(gavel)*
I sentence you to wear the shoes that really fit the foot;
This is my ultimatum—go and be sure you do it.
And while you are about it just take an inch or two
From off those heels—it will improve your posture if you do.

(Exit Bailiff with prisoner, returns with Foul Air Fiend, who is sniffling so that she can scarcely face the court.)

JUDGE:

Now Bailiff, get a move on, there are other prisoners here *(pauses)*;
You say it is alleged this girl has acted queer
And always sniffs and snuffs and wipes her eyes and nose,

"You say this poor, pale lady is guilty of neglect."

"She always sniffs and snuffs and wipes her eyes and nose."

And proves a public nuisance everywhere she goes?
You say she seals her windows fast and shuts her doors up tight
And keeps out all the sun and air in winter time? All right!
I order her to open wide each window in the room
And cease her mode of living like a mummy in a tomb.
Then if her cold continues, why, call a doctor in,
You say there is another case? All right, then let's begin.

(Exit Bailiff as before.)

JUDGE:

Now trot the prisoner forward, and let her hear her fate.
The charge that's filed against her—she's sadly underweight?
I order plenty calories and vitamins and milk,
I prophesy the prisoner will soon be fine as silk.
In case she does not gain in weight, just as a last resort
Then I prescribe cod liver oil. Order in the court!
I know that this is going to be a little hard on you;
But now with eggs at 60 cents, what is a guy to do?

Snap out of it now, bailiff, the time is getting short;
Bring in the rest, step on it! Order in the court!

(Exit Bailiff as before.)

JUDGE:

You say this poor, pale lady is guilty of neglect,
Has failed to use her tooth brush until her health is wrecked?
And now she has neuritis with misery in her bones,
Is full of rheumatics and chills and aches and pains and groans?
I now pronounce the sentence—a thing I would avoid—
The prisoner loses tonsils and maybe an adenoid.
And, Bailiff, if at last you find these measures all have failed,
I order that you pull her teeth; now, have the prisoner jailed.
And when their terms have all expired, have every case returned.
I want to look them over. The court is now adjourned.

Act II

(Girls in gym togs give simple drill lasting not more than ten minutes. The success of the playlet depends largely on the sort of exercises given during this act. Any foot and arm movement is good. The music continues. Judge and bailiff enter.)

JUDGE *(using gavel):*

The court will come to order; the prisoners, bring them in,

(Exit Bailiff; ushers in prisoners.)

Let every one keep silence; all right, we'll now begin.

(Girls enter in a lively quick step and give drill. At the end of the drill the girls mark time as the judge issues the final order.)

JUDGE:

I'll have to say the Court with the result is pleased,
Now, Bailiff, clear the courtroom; the prisoners are released.

[CURTAIN]

N. B.: The fact that the Judge does all the speaking was not an accident. The high school girls for whom the playlet was written felt that they had too much other work to allow them to learn a part but were quite willing to do the acting. This is often the case.

—H. McG. B.

WHEN TOMMY SQUIRREL LED THE RACE!

By

Jennie MacMaster

LITTLE Tommy Squirrel was lazy. One bright, sunshiny morning when spring was stealing into the air and making every living thing joyous and active, he sat on the limb of a tree with his tail curled gracefully over his back. Other squirrels frisked and chattered all through the grove. They played tag up and down and all around the trees. Some even jumped from one tree to another in the excitement of the chase.

Only Tommy stayed out of the fun. He was too lazy to run and jump. Even his father and mother ran and jumped more than he did. So this spring morning, there he sat, high up in an oak tree, peeping through the leaves at the children playing on the school grounds across the road.

Suddenly his little, bright, peering eyes spied Jimmy Stout in the corner of the school grounds. Now Jimmy Stout never knew it, but Tommy Squirrel had been watching him for a long time. Tommy chuckled a funny, little squirrel chuckle as he watched Jimmy sitting against a tree with his knees humped under his chin. Tommy chuckled so hard all to himself that he nearly fell. "Ho-ho," he laughed, "children are like squirrels. I am hiding here so mother won't find me. Jimmy is hiding there so his teacher won't find him. And we are both hiding because we don't want to play. Ho-ho-ho-ho!"

But Tommy had laughed too loud. Mother Squirrel, running up the next tree in a lively chase after Sally Squirrel, stopped short and looked all around to see from where that laugh had come. In a flash she jumped across and

ran along the branch to the place where Tommy sat.

"What are you doing here?" she scolded. "I declare I don't know what will ever become of such a lazy boy! Hop right down off that branch and run and play with your sister Sally."

Tommy twitched his fluffy tail, but he did not move even one little paw. "Oh, Mother," he begged, "it's so nice just sitting here. I don't want to play."

"You don't want to play!" Mother Squirrel sat back with a gasp. "Now, Tommy," she told him, "squirrels don't act that way. I should think you could see that. The only reason that we can run and jump so agilely is because we always do it."

Tommy shook his head. "But, Mother, I can run. I just don't want to. I'd rather sit here and watch the others."

"Yes, but those who 'just watch' don't develop strong muscles. Before long your muscles will be so flabby you can't run. Then what will you do?"

"Just sit here and watch," Tommy answered. "I think it's more fun any way." He raised his little right fore paw, and pointed to Jimmy Stout. "See!" he said, "there's Jimmy Stout sitting under his tree again. He sits there every day, and he can run. Why can't I be like him?"

"Humph!" Mother Squirrel grunted and switched her tail angrily. "That's just what you will be like. Jimmy Stout, indeed! I never thought a child of mine would want to be like that lazy boy."

"But Jimmy can run. I saw him yesterday when he was late."

"Yes, maybe so, but you didn't see him run very far. He can't run far! You watch him." Mother Squirrel nodded her head wisely as she talked. "Before long he gets red in the face. He puffs and pants and has to sit down to rest."

Tommy began to look less certain about Jimmy. But before he could say a word, Mother Squirrel moved fiercely toward him. "Tommy, I'm ashamed of you," she scolded; "to think that a boy of mine would be content to sit in the trees on such a lovely day. If you don't run and jump more than you have this spring, you won't be able to climb a tree. I don't believe you can catch Sally now, and she's lots younger than you."

Jimmy Stout could not run far.

Tommy sat crouched in a little, furry ball, with his head almost resting on his tiny fore paws. His tail was no longer curled high; it hung limply over the branch. He was watching Jimmy and trying to puzzle it out in his little squirrel brain.

"But, Mother," he asked, "won't Jimmy ever be able to run far? Will he always have to stop and rest?"

"That all depends on Jimmy," Mother Squirrel said. "If he wants to run far, he will have to practice day after day."

Tommy shook his head doubtingly. "But why does he have to practice? He doesn't forget, does he?"

Mother Squirrel was all out of patience. You see squirrel children never disobey their parents, so Tommy was being doubly naughty. He was disobeying his mother, and he was spoiling all his fine, strong muscles. And poor Mother Squirrel was so anxious for him to be the strongest little squirrel in the grove that it made her angry just to think about it. She whipped her tail in fascinating curves over her back, and her voice was quite sharp when she answered, "Of course he doesn't forget, but his legs are not strong because he doesn't use them. If boys and squirrels want to be the fastest runners in their gangs, they have to run every day. Legs don't run just because they are legs. The more you run with them, the better they run."

Tommy listened closely with his tiny, sharp ears perked straight up. Mother Squirrel had been watching him, but now she looked out over the grove, and that made her think of something else.

"Once there was a little bird in this grove who never learned to fly." Tommy looked up quickly, and his mother continued in a sadder voice than he had ever heard her use. "Most people think that birds fly simply because they have wings. There wasn't one thing wrong with this little bird's wings, but he was blind and couldn't see where to fly, so he never flew."

"Where did the little bird go, Mother? A bird that can't fly isn't really—why, Mother, I just can't imagine a bird not flying!"

"No," his mother agreed, "and neither can I imagine a squirrel that can't run and jump. I just can't. And to think it's my own little boy that won't."

Tommy hung his head but he just had to ask again, "Where did the little bird go?"

"A cat caught him," Mother Squirrel answered sadly. "Birds that can't fly can't get away from cats. And there wasn't one thing wrong with his wings except that he had not used them."

Mother Squirrel looked sad, and Tommy looked thoughtful. Neither of them had said a word for several minutes, when they heard somebody coming up the tree. It was Sally Squirrel. She stopped on the branch just below them, and called, "Come on, Mother, let's play tag."

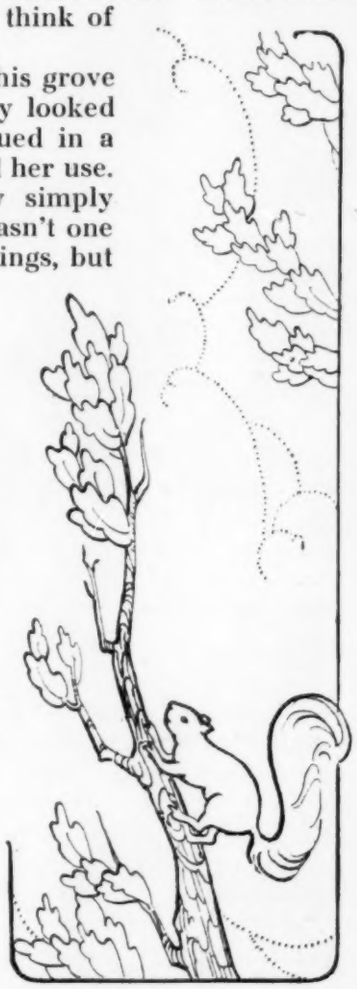
"No, Sally, not now," Mother Squirrel answered, "but Tommy will play with you."

Sally sat back and clapped her tiny front paws. "Tommy!" she cried. "Ho-ho! That lazy boy! He couldn't catch me if he tried."

"I could, too," Tommy sprang to his feet as he shouted. "I could catch you in a minute!"

"All right, try!" Sally scampered down the tree, calling as she ran, "Come on, catch me!"

In less than a second, Sally had reached the bottom limb, with Tommy following close behind. Sally darted out to the end of the limb, where she sprang quickly to the next tree and ran along that limb to the trunk. But as she started up the trunk of the second tree, she heard a queer thud behind her, and a little, frightened squeal.



Sally scampered up the tree.

It was Tommy. He had fallen to the ground when he tried to jump as Sally had done. Sally turned and ran down the tree trunk, but before she could reach him, Tommy had scrambled to his feet. He wasn't hurt, but he was terribly ashamed. He looked all around, hoping no one had seen him.

Then he darted up their own tree, and into the hollow that was their home. There he stayed for quite a long while, thinking it all out. He had never fallen before, not even when he was first learning to jump. It had looked so easy because Sally had done it so gracefully.

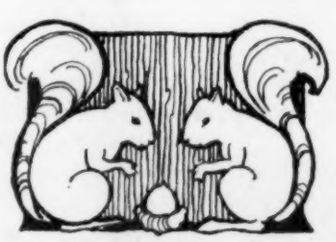
He thought about the little bird that could not fly. Suppose, he thought, a cat had been chasing me! Then he remembered that a cat couldn't possibly catch a squirrel. That made him feel better till he thought of the time a dog had chased him. What if that dog had been chasing me today? he thought, and shuddered just to think about it.

That afternoon Tommy surprised them all by running and playing the whole afternoon. He kept right on surprising them, too, for he ran and jumped and played as hard as he could every day.

He practiced and practiced till he could outrun Sally. Then he picked the next fastest runner and practiced till he could outrun him. After that he picked the next fastest runner, and the next and the next and the next. Before the summer was over, every squirrel in the grove had a hard time catching him.

The very first time he outran them all and knew that not one of them could catch him, his little squirrel heart nearly burst with joy. That day he told his mother it was lots more fun to lead the race than it ever had been to watch it.

"They'll never catch me again!" he added. And they never did.



TOMMY & SALLY

HEALTH *and the* SCHOOL

Edited by J. Mace Andress, Ph.D., 67 Clyde Street, Newtonville, Mass.

The Classroom Teacher and Health Education

A HEALTH education program to be successful must be a cooperative enterprise. It involves all those forces which can be brought to bear upon children to make them physically and mentally healthy. No one individual can be responsible for a health education program. The teacher, parent, school physician, nurse, janitor, principal, superintendent, architect, special teachers (such as teachers of home economics, physical education and science), and others who come in contact with boys and girls, all have a place in the large program of health education. They must all work together, each contributing his part for the welfare of each child.

In this cooperative enterprise the classroom teacher plays a distinctive part. So great is her influence that the health education program is generally doomed to failure unless she is alert and active. The main reason for her importance grows out of the nature of health education, which is largely a matter of careful supervision, instruction and training. Since the classroom teacher, particularly in the lower grades and rural schools, is in constant contact with her pupils during school hours her influence is obvious. Let us consider some of her most important functions.

First of all, pupils must get most of their information about health from the regular class work in hygiene. This involves the study of a textbook, the making of posters, construction work, dramatization and other attractive methods of learning about health. Probably there is no field of education in which there has been such rapid progress as in the realm of health teaching. From a dry, dead, formal subject dealing only with physiology and anatomy it has become a living thing with a genuine human appeal. Health stories, puzzles, games, plays and books, along with skilled teaching, have helped to make the study of health fascinating to children.

The classroom teacher trains her pupils in good health habits. This is exceedingly important, for health behavior is more important than knowledge about health, although such knowledge is naturally conducive to the right kind of health behavior. Regardless of what the course of study in health may be, every teacher in every grade may do something in actual health training. Cleanliness, posture, the use of plenty of water and milk, proper care of drinking fountains, proper

The classroom teacher interprets the child to the school doctor.

use of the eyes and sensible choice of food in the school cafeteria are activities over which the wide awake teacher may have supervision. Today in our best schools pupils not merely talk about a proper diet but with the help of the teacher choose a balanced diet from the menu of the school lunchroom.

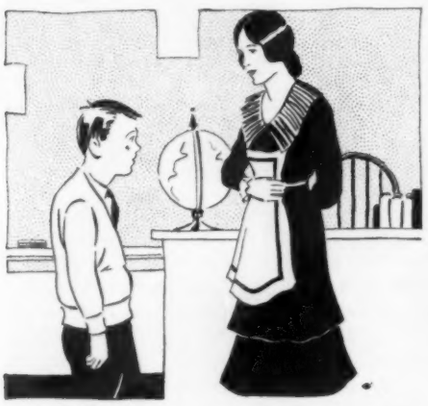
The classroom teacher by wisdom and tact may build into the lives of her pupils healthful attitudes. The subject of health, if it makes use of gruesome anatomical charts and refers to symptoms of disease, may arouse in pupils' minds an unhealthy attitude toward the subject. Death, sickness and disease should not be dealt with negatively. Little reference should be made to symptoms, for, as every psychologist knows, those who know about symptoms tend to have them. Victory over sickness and death and heroic achievements in promoting positive health need to be emphasized.

All the association made with health should be happy. Not only in the subject of health but in her contact with her pupils incidentally and in the classroom, the teacher should seek to promote attitudes of success, self-reliance, cheerfulness and courage. Boys and girls through her guidance should learn how to meet their problems, emotional and intellectual, efficiently. In the final analysis mental health is more important than physical health, for unless one learns to meet the world happily and successfully little else really counts.

The classroom teacher interprets the child to the school nurse and school physician. It is impossible for the school physician to come in daily contact with every school child. He must therefore depend on the teacher to suggest pupils who need his especial attention. The alert teacher becomes skilful in detecting symptoms of disease and protects the individual child, room and school by referring the case immediately to the physician. If there is a deficiency in scholarship or some sign of physical defect, she also seeks aid from the physician. The school nurse is the link between the school and the home. Although the school physician may discover a defect it should be the teacher who enlightens the nurse prior to her home visit concerning the bearing that this defect may have on the child's success in school.

It is the teacher, and the teacher alone, who can carry out the individual plan in dealing with the health of the child. The really vital thing in health education is giving every child that instruction and training which will give him the maximum amount of health. It is not knowledge and training in general but the particular knowledge and training which the individual needs that he should get. For example, John has bad posture. It may be desirable for John to know something about first aid and cleanliness in restaurants, but the thing

that he needs above everything else is to learn how to sit and walk correctly. Perhaps this in turn requires not only training in posture but more rest and the correction of food habits. To accomplish these results the teacher may call to her aid the instructors in food and physical education, but she, because of her daily contact with the boy, is best fitted to assume the responsibility of seeing that he gets the training.



John needs not only posture training, but more rest and better food habits.

Finally, in health teaching as in everything else personal influence counts. The cross, peevish teacher who wears high heeled shoes and dresses unhygienically and constantly violates the most obvious rules of hygiene cannot have a wholesome influence. Daily contact counts. As Emerson so well said: "What you are speaks so loud I cannot hear what you say." The teacher is bound to have a greater influence than anybody else in the school. If she is healthy minded, vigorous of body and possessed of good health habits she will stimulate wholesome living among her pupils.

TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

HEALTH TEACHING BY ASSEMBLY PROGRAMS

THE following is one of the plans used by the elementary department of the University Hill School, Boulder, Colo., for teaching good health.

At the last of each month of the school year, beginning with November, a program is given for the whole school by one of the grades.

Some of the things taught by these programs are thankfulness, the true Christmas spirit, the love of good books, and health. The same subject is used in the different grades from year to year so that the teacher is constantly working along one line and planning out better programs and ways of interesting the children in the particular subject.

We have a feeling that when we wish to bring some important matter to the attention of the children, we gain momentum and power by having it presented by the teacher in each home room on the same day and at the same hour of the day. Thus the children go out discussing it, among themselves and at home.

The month of January has been selected as the time to give especial attention to health teaching, which culminates at the last of the month in a program presented by the fourth grade. For the previous four months, each grade has been having its health lessons from its own book. Along with the health teaching we do a great deal of safety teaching. The practice of courtesy and caution is emphasized by different plans and the children are led to see that lack of attention to the care of bodies, both as to health and safety, is poor citizenship.

Of course the grade presenting the health play gets the greatest amount of good from it because the children are working and thinking intensively upon the subject for the month. They make posters, read health stories and write health rhymes. Among other things, the children cut out pictures of food, paste them on stiff paper and fix a standard on the back so they will stand up. Then different groups arrange tables with proper food for each of the three meals and these are varied from time to time.

One of the greatest points in health and safety teaching is to get the cooperation of the home. It is almost useless to teach a child that he should have proper food when it is not prepared for him; that he should have long hours of sleep when he is kept up for shows and parties; that he should have a quiet place for study and reading when the rest of the family is running the radio and visiting all around him; that correct mental attitudes have much to do with his health, when such things are not practiced by other members of the family.

We find we are able to reach the home effectively through the presentation of the health program. The children discuss it at home, mothers get interested through preparing costumes and the fathers and mothers attend in large numbers when the play is presented.

The children presenting the health play one year eagerly look forward to its presentation by the following grade and the teaching becomes cumulative.

The girls of the fourth grade one year voluntarily organized a health club as an outgrowth of the preparation and presentation of a program and this club is still active in its third year.

ROSE ANNE BOGGESS,
Boulder, Colorado.

A TEACHING EXPERIMENT ON NAIL-BITING

"WHAT can I do to stop biting my finger nails?" was asked by a high school boy in my health habit class. Upon further questioning I found that this was a problem with many pupils, so I determined to find a logical way to show them that this habit might be harmful, and in this way to win their cooperation.

The following is a practical experiment, easily and interestingly done, and it proved successful in accomplishing its purpose.

They dipped their fingers into the sterilized agar.

The materials used were as follows:

Three petri dishes from the department of health: 1. One for a girl that had been biting her finger nails. 2. One for a boy that had been biting his finger nails. 3. One for a control.

Microscope from biology department in school.

Slide.

The three dishes were made up at the laboratory with agar in them and then sterilized.

The boy lightly put his finger in the sterilized agar and then covered the dish with the cover, putting a strip of adhesive about it to prevent outside contamination. The girl did the same thing. Both dishes were labeled and with the sterile one that had not been touched were put in a warm place for seventy-two hours.

At the end of seventy-two hours many colonies, or spots, were found on the agar in the two dishes and

none on the third. The boy's had more than the girl's. These colonies, which were of various colors denoting various organisms, were intensely interesting to the pupils.

Some of the colonies were taken from the dishes and placed in a drop of water on a slide, covered with a cover glass and focused under a microscope for the pupils to examine. They saw many various shaped organisms moving quickly around. Different slides were shown to the pupils and each pupil described what he saw.

The boy that asked the question was much affected by the experiment, even more so than the others.

The enthusiasm shown and the intelligent questions asked indicated that the pupils thoroughly understood the experiment.

This experiment was done six months ago and not one of the eight, who have been quietly watched, has gone back to the old habit of biting nails. The first experiment was done in a high school but later the same thing was tried in an elementary school, where it met with equal success.

NAN NULF, R.N.,
Department of Health,
Detroit, Mich.

THE FIRST GRADE LEARNS ABOUT MILKMEN

IN THE first grade room we had been studying about the work of different tradesmen. The children made a list of those about whom they would like to know more. Among those on our list was the milkman. They were interested in the one who came to their homes and the one who brought the milk to us in school.

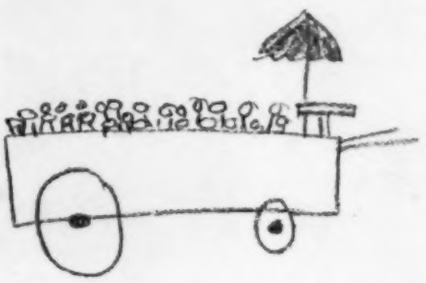
We made out a list of questions that we wanted answered. The list was as follows: How do the farmers get milk to the city? How is milk put into the bottles? How are the caps put on the bottles? What happens to the bottles we use? Where does milk come from? How do we get the cream off of the milk?

The doll in our playhouse had gone to visit her grandmother, and she often wrote us about things on the farm where she was staying. In a day or two the following letter was received from Betty Jane.

Dear Boys and Girls:

I have had the best time today! I have had a new kind of ride. You see, grandfather has four cows that give us nice milk. There is more milk than we can use, so grandfather sells some. All the farmers around here do that. They put the milk in big cans and leave them in front of the house where the driver of the milk wagon can get them. This morning Grandmother said I could go to the store on the milk wagon and ride to Northampton on the milk truck. I was to visit my Aunt Rose. Wasn't that a nice surprise?

I must tell you that up here we have just a dirt road. There are no cars or busses and in muddy weather even autos cannot get through. The driver of the milk wagon has two horses to pull it. The wagon is not like the ones you see in the city. There is no top to ours. It looks like this:



The man sits up on a high seat when he drives and he has a big umbrella that he puts up when it rains or the sun gets too hot.

This morning Grandfather put me on the high seat and we started. We had to go two miles and we passed nothing but farms. We have only one store here and that is up in the center of the town. At each farm where there were cans out, the driver jumped down, put the big cans of milk in the wagon, and jumped up again. Grandfather had taught me how to hold the reins so I was not afraid.

When we got to the store the wagon was full of cans. Beside the store there is a long wooden platform. The driver put all our cans of milk on it; then he went back home.

Just then there was an awful noise, and I saw a great big milk truck coming up the hill. It was the biggest truck I ever saw; and what do you think it did? It backed right up to the platform. The driver jumped down and put all the cans in his truck so fast that it seemed only a minute before I was sitting beside him on my way to the city.

I asked where the cans were going, and what do you think he said? To Springfield! He said that so much happened to our milk before people bought it that I'd just have to go and see for myself. When I begged him to tell me he sang funny songs, and then—I was in Northampton.

Wasn't that a good ride? I do wish that I knew about the milk. Do you know? Can you tell me?

Love to you all,
Betty Jane.

The class decided that the only way to find the answer to their own and Betty Jane's questions was to go to a dairy.

We then worked on the following letter to the principal.

Dear Miss ———:

We are studying about milkmen and milk. We have some questions we want to have answered. We think we could find the answers to them if we went to a dairy.

May we all visit a dairy?

Children of Room ———

In time came the reply.

Dear Boys and Girls of Room ———

You may go to the ——— Dairy Friday afternoon. You will leave here right after recess. Please remember to show the men at the dairy how polite the children of the First Grade can be. I hope you will have a good trip.

Sincerely,
——— ———.

We started out on our trip greatly excited because we were to go on the car. The following story tells what happened.

Our Trip to the Dairy

We waited for a car to take us to the dairy.

We put our tickets in the box and rode as far as ——— Creamery.

When we got inside we saw a man sawing dry ice.

Another man told us that the dairy was being made over.

He asked us to come back later.

He gave us each a cup of ice cream.

Then we walked back to school.

Lorett, Eleanor, Walrath, Joe.

A few days later we decided to visit another dairy. This time we were more successful. The following letter dictated by various members of the class explains what happened.

Dear Betty Jane:

We went to a dairy.

We rode on the street car.

The man who brings our milk at school met us.

He showed us all the things.

We saw the wagons they have in the city.

We saw the big cans you wrote us about.

The cans are washed clean and sent back to you.

Then we saw a big tub of soapy water.

There were milk bottles in it.

They were being washed all clean.

The machines made so much noise the man had to yell at us.

A machine carries the bottles through some hot water.

The soap is all washed off.

The bottles go through another funny machine. They come out standing up.

They are on a belt that keeps moving.

They ride to a big round thing like a basin.

There are rubber things on the basin and a bottle goes under each one.

Milk comes out of the basin and fills the bottles.

Then they ride on the belt to a long thin machine that has the caps.

It goes up and down and puts the caps on the bottles.

A man takes the bottles and puts them in the crates, and they ride

under some water to wash them off, and are all ready for us.

We saw the milk in the tubs.

It was hot, and got colder.

They were making it good for us to drink.

The men gave us some milk to drink.

We had a good time.

Love,

Boys and Girls of Room ———

This experience tied up with the other school subjects in the following way:

Social Studies: The trips, and those things listed under Language.

Reading: Parts of the letters received, signs posted around the room, stories about milk and milkmen, library stories, magazine articles brought from home, signs seen on trips, and letters sent out.

Physical Training: Walking like horses with a heavy load; how to carry heavy crates.

Writing: The letters composed.

Music: We could not find songs of this type, so we made up two of our own. However, songs about cows will serve.

Language: Composing of the letters and stories; putting together the final series of charts, which made a "hanging book" and is referred to often; putting titles on the pictures which we drew; conversation during our trips and after them; stories read to the class, such as "The Milkman" by Marjorie Hardy and "The Milkman Sound," a poem by Christopher Morley.

Health and Art: Pictures of things seen; construction of the milk wagon used in cities; composition of the charts.

Hanging Book: "All about Milkmen," with a picture of a milkman on the cover. The booklet contained drawings, newspaper pictures and copies of all the letters and the story and poem read to the class.

The milkman will be one of the characters in the play which the children plan to give at the close of school. This play is to include as characters the tradesmen we have studied, showing their connection with the home.

ANNA FRANCES DEANE,
Acushnet Avenue School,
Springfield, Mass.

TEACHING HEALTH IN A BOY'S CLUB

THE Boys' Club of New York, which has two branches, one on the lower east side and one on the upper east side of the city, maintains a dental clinic in each club. Each clinic has two dental hygienists and one dentist.

Recently the board of trustees decided to employ a third hygienist, who would devote part of her time to a dental educational program. Since the organization is a social and athletic one, the type of boy who joins is not likely to be particularly interested in his health. For this reason the program must be made attractive and not too obviously didactic.

Posters pertaining to dental health and its effect on general health, strength and success in athletics are shown in the building. Boys in the neighborhood schools are asked to make posters to be exhibited in the clinic.

As part of the regular movie shows which are open to members, a one-reel movie about dental health, provided by the New York Tuberculosis and Health Association, is sometimes shown. This is considered a valuable method of health education, since it is a part of the entertainment for the afternoon and not associated with any idea of education.

A part of this program is a health column, which is published every week in the newspaper edited by the boys. Here not only dental but also general health is stressed. Jokes about the medical and dental department are collected. "The Doctor" answers questions in his column on any topic of health. Strong muscles are shown to be connected with health. In short, an attempt is made to relate facts which are of interest to any boy to the value of a healthy body. The following excerpt is taken from "The Record":

The Doctor Says:

Hello! Boys' Club? This is the Doctor speaking. How's everybody today? Say listen, fellows, I've got a couple of things to tell you today.

Wait 'till I put on my glasses. There, that's better. Now I can see you all.

———

Say, Jim, how is it you're looking so pale today? Had only six hours sleep last night? Now look here, didn't I tell you you'd need ten hours' sleep every night if you wanted to make that basketball team? Better get busy and catch up on some sleep.

———

Bill, you are holding a pencil in your mouth? Nature has given you two hands. If she thought you needed an extra one she would have stuck one on somewhere. Don't invite disease by putting dirty pencils and pens into your mouth.

———

Did you hear the story of the fellow nobody liked? Even his best friend wouldn't tell him! But the dentist did: A bad-smelling breath is often caused by decayed teeth.

How are your eyes today, Steve? Better? That's good. In the future remember to have good light for reading and doing close work. But never let the light shine directly into your eyes, for that will harm them. Take care of your eyes, they are your bread-winners. Poor eyesight may lead to discomfort, disease and low wages.

———

Old Man Cold is here again, with his friends, Sniffle and Cough. Do not make the mistake of thinking that every one must get colds. You can do much to prevent them:

Dress warmly.

Keep fit by eating regularly and getting plenty of sleep.

Do not keep your overcoat on indoors.

Keep away from people who have colds.

———

How about getting that tooth fixed, Tony? All things come to him who waits—even the toothache!

———

See you next week. So long!

The hygienist is also available for dental talks to mothers' clubs, school assemblies and groups of young children. Lantern slides are used in talks, and posters without lettering are used in telling dental health stories to younger children.

Booklets on dental health are provided in the clinic, supplied either by the New York Tuberculosis and Health Association or the Metropolitan Life Insurance Company. Attractive story books for young children are supplied by manufacturers of tooth paste.

This program, it is hoped, will keep up interest in oral hygiene between visits to the dental clinic and, what is even more important, will spread the gospel to children who do not come to the clinic at all.

MALVINA WALD, D.H.,
New York City

NEW HEALTH BOOKS AND TEACHERS' MATERIALS

CAMPING is a new adventure in education but it has proved its worth in promoting mental habits and attitudes with which the school and the home have grappled with varying degrees of success. We hear much today about the desirability of arranging life situations in schools so that children may learn in a natural way. It is not an entirely new idea, for it goes back to Rousseau's "Emile" of the eighteenth century, but it has received new impetus and meaning in the modern school of Dewey and Kilpatrick. All teachers know how difficult it is within the confines of an artificial schoolroom to arrange life situations. Progressive educators have discovered that the limitations of the school do not necessarily carry over to the camp.

Mr. A. E. Hamilton, an enthusiastic friend of boys and an ardent believer in camp education, unburdens his soul in this delightful volume "Boyways."[1] Those engaged in camp education, he says, have the "privilege to present opportunities for that self-discipline which lies at the root of all art, of all creative expression. They can give boys and girls a chance to learn what it is to let go and to hold in instead of waiting to be pushed ahead or pulled back by the uncomprehended forces of adult domination." . . . In camp education boys become acquainted with consequences. When a boy nicks his hatchet he does not feel punished when later on he is compelled to grind a fresh edge with a stone. In camp life there is a semiprimi-

1. Leaves from a Camp Director's Diary. By A. E. Hamilton. Price, 50 cents. John Day Company, New York, 1930.

tive reality in which boys learn the art of adjustment and self-mastery under the guidance of leaders who understand boy life. Mental and physical health are among the regular problems of everyday living.

Mr. Hamilton has written a practical book for camp leaders, but his enthusiasm for teaching and character building is so contagious that his book might be read with profit by all teachers.

THIS little book[2] bears evidence of the enthusiasm and ingenuity of two clever parents. Little children are intensely interested in any kind of scheme that measures progress in the form of stars and material prizes. "Happy House" contains numerous score sheets so that the parent can score a child on various objectives such as "hanging up clothes and coat and hat," "eating slowly and chewing foods well," and other desirable habits. The child's achievement each day may be measured and recorded by pasting on the score sheet stars and disks. The plan is to have a final check-up each week.

The scheme has been worked out with simple and concrete directions and the book should be helpful for mothers who are willing to take the time to follow the directions of the authors.

TEACHERS of hygiene in colleges will give a cordial welcome to Dr. Oberteuffer's careful study, "Personal Hygiene for College Students."[3] The teaching of hygiene in colleges has usually been unfavorably received by students. As a rule it has been presented to large groups of students in weekly lectures under compulsion. These courses have been so unpopular that in many colleges they have been abandoned. Dr. Oberteuffer has accepted this situation as a challenge and has attempted to analyze the content of courses in personal hygiene in colleges and on the basis of sound psychology and experimental practice to formulate aims and procedures in teaching that will result in successful teaching.

Dr. Oberteuffer's concept of health is thoroughly modern. Health is not to be regarded as an end in life, but it is unquestionably a means of increasing business efficiency and making social life more satisfying. If problems of personal health can be presented to students so that they will be linked with the learner's own interests then the success of health teaching may be assured. Health is no longer to be considered as physical. It is mental also and has to do with the quality of life.

In selecting subject matter the instructor may select material that the adult world considers important to success, discuss with students only those topics that evoke the conscious needs of students or

proceed with a logical arrangement of topics. Although the adult health interests of life are not to be neglected, the author believes that the specific student interests in health should be considered in organizing a course in personal hygiene for college students. In courses that would naturally stimulate curiosity questions were recorded without the students' knowledge. Approximately 2,000 students contributed to this accumulation of questions over a period of five years. Thirty-seven pages of the book are devoted to the most important questions that students have asked about health. They should be stimulating to college instructors in personal hygiene. Teachers of hygiene in high schools might study this book with profit.

Dr. Oberteuffer has made one of the outstanding contributions to health education during the year. Sound in content, scientific in procedure, temperate in statement, broad in its outlook, and couched in simple and dignified English it may well serve as a model for future studies in health.

THERE are so many texts on psychology appearing daily that one wonders what excuse should prompt another author to enter the field. This doubt is at once dispelled when one approaches Dr. Schoen's "Human Nature."[4] It is modern in its point of view, and contains much new material not found in most psychology texts. The chapter on "Personality" and the references throughout the text to mental health should be of practical interest to beginning students.

"BUILDING Sound Teeth"[5] is one of the valuable bulletins on health for teachers issued by the Metropolitan Life Insurance Company. The importance of a good diet is emphasized. Reference is made to two interesting studies at the University of Iowa. Both studies show that decay may be arrested by a proper diet. One of the studies reports that the cooperation of parents was obtained whereby each child received every day a quart of milk, one egg, a teaspoonful of cod liver oil, one ounce of butter, one orange, two or more servings of succulent vegetables, and other foods that the children desire. Candy was allowed only after meals. Five children were observed until the decay was completely arrested.

The last sentence in the bulletin reads: "Dentistry is good and clean teeth are good; but to avoid decay it is necessary to eat wisely."

THERE have been so many dry books written on physiology and anatomy, and the memory of some of us who plowed our weary way through them is so vivid, that we may be doubtful about the possibilities of such subjects being made attractive. But such an attitude will be dispelled in approaching this unusual book[6] written by an instructor of neurology in Columbia University. The story is told in a dramatic way. It goes back to the dawn of the science of anatomy and physiology. Illustrations from ancient books and accounts of superstition crowd its earlier pages. One soon appreciates how recent is our knowledge of the human body.

"The present scientific era," says the author, "is still at a very tender age. Many things which are accepted now as established truths are of relatively recent discovery. It is only three hundred years since Dr. Harvey discovered the circulation of the blood. Up to 1628, nobody knew that the heart pumped blood through the arteries and received it back through the veins. The heart was thought to be the source of the innate heat of the body. The lungs were the bellows which cooled the overheated blood. The nerves were hollow, the liver manufactured blood and yellow bile, the spleen poured back gall into the intestine. Many of these conceptions lasted well into the seventeenth century."

The scientific story of the functions of the human body is told with simplicity and charm. The human body is regarded as a mighty empire peopled by countless citizens. Dr. Elwyn shows how these citizens are organized into groups of carpenters, masons, engineers, factory workers, government officials, policemen and other specialized artisans of a highly organized society.

2. Happy House—Child Training in a New Form. By Ruth Noyes Harris and Jonathan N. Harris. Pp. 24. Price, $2. Happy House Company, Boston, Mass.

3. Personal Hygiene for College Students. By Delbert Oberteuffer, Ph.D. Price, $1.50. Pp. 121. Bureau of Publications. Teachers College, Columbia University, New York, 1930.

4. By Max Schoen. Price, $2.50. Pp. 501. Harper & Brothers, New York, 1930.

5. Health Bulletin for Teachers, Number 10. Pp. 4. Metropolitan Life Insurance Company, April, 1930.

6. Yourself, Inc.—The Story of the Human Body. By Adolph Elwyn. Pp. 319. Brentano's, New York, 1930.

New Books *on* Health

PROBLEM TENDENCIES IN CHILDREN

By Willard C. Olson, Ph.D. Cloth. Price, $2.00. Pp. 92. University of Minnesota Press, Minneapolis, 1930.

DR. OLSON is director of research in child development at the University of Michigan. He has recorded in this book the results of four years' investigation of preschool children, subnormal classes as well as superior children. His study embraces behavior difficulties in children ranging from the normal to delinquency and crime. He also recognizes borderline cases, in which children usually normal may be at times markedly abnormal. His point of view is that of most educators who are not alone interested in developing the mental capacities of a child, but who realize that each person has his own problems of behavior or adjustment.

The evident discrepancy between the individual's capacity for adjustment and the demands of his environment leads one to a study of personality traits, and this book offers a method and means of rating. The author based his ratings on a comprehensive list of problems (Schedule A) sometimes found in children. This includes the child's interest in school work, cheating, tardiness, lying, defiance to discipline, outbursts of temper, bullying, stealing and truancy. In the behavior rating scale (Schedule B) is a check-up of the individual's personal traits, which covers his intelligence, his physical output of energy, powers of concentration, social habits, morality and reaction to discipline.

Such a study forms a basis for education and a program of social control. The school is regarded as preventive rather than corrective of conduct disorders which have so important a bearing in shaping individuals for success in later life. It has been found that achievement in school subjects depends more on measured personal tendencies than on measured mental ability. The reader will be interested in this study, which reveals that the highest instances of problem tendencies were among the children of lower intellectual levels; also among the chronologic overaged children and the mentally underaged children. Teachers will be particularly helped by this volume, which gives the methods of ascertaining inherent conditions and the habit mechanisms of the child, manifested in behavior problems which prevent maximum achievement.

C. P. FORDYCE, M.D.

SCHOOLS

By Alonzo B. See. Cloth. Pp. 243. Bertram Book Corporation, New York, N. Y., 1928.

THE author looks on our public school system as being in a bad way. He lays the blame for this deterioration on the superintendents who, he says, rob our children of practically everything they need in the way of education, and who "know practically nothing of the minds of these children with whom they have to deal." To the author's notion "practically everything that has been introduced into the schools since the early days of our country in the way of lessons, methods and features must be passed on." He has little use for women teachers and constantly extols the superiority of men, but school superintendents "may be accounted of all men the most incompetent." A large portion of the book undertakes to present the author's idea about a properly managed educational system, depicted in a conversation with a hypothetical superintendent, a "Mr. Blair." The author's assumptions concerning our present system are obviously not founded on good evidence. Such reactionary ideas as are proposed can never supplant present organization directed by entirely competent superintendents. This book is mentioned merely to condemn it.

C. P. FORDYCE, M.D.

HEALTH EDUCATION

A Program for Public Schools and Teacher Training Institutions. By the Joint Committee on Health Problems in Education of the National Education Association and the American Medical Association. Revised edition. Pp. 251. Price, cloth, $1.75; paper, $1.25. Washington, D. C., 1930.

AT THE annual meeting of the National Education Association held recently in Columbus, Ohio, the Joint Committee on Health Problems in Education presented a revised edition of the report on Health Education which was prepared by the committee and adopted by the National Education Association in 1925. The original report, written with the aid of a group of twenty-seven technical experts in the several phases of school health, is the most important contribution that the Joint Committee has made. That it met a real need was made evident by the steady and increasing demand for copies of the report by teachers and others. It was felt by the Joint Committee that the development in this field of health education has been so rapid that extensive revision of the report was needed. Again the aid of a group of competent experts was invoked and a larger committee was selected, consisting of fifty persons, thirteen of whom were members of the original group.

The report has been expanded from 164 to 251 pages. The subjects covered, as shown by the chapter headings, are the same as in the original report, but added space has been given to new developments as follows: Nutrition and Health is increased from 8 to 20 pages; Mouth Hygiene, from 4 to 9 pages; Hygiene of the Eye, from 2 to 5 pages; Physical Education, from 8 to 11 pages; Mental Hygiene from 3 to 8 pages; Applications of Psychology to Health Education from 5 to 17 pages; and Accident Prevention and First Aid from 3 to 10 pages. Most of the other topics are given increased space. The references for teachers printed at the end of each chapter, together with the general bibliography at the end of the volume, have been thoroughly revised and will prove useful to teachers seeking up-to-date and authoritative information about the topics presented.

"Health Education" is not a textbook for use in the classroom, but a presentation by expert educators of large experience of the fundamental principles and methods of procedure to be used in any plan "to instruct children and youth so that they may conserve and improve their own health; to establish in them habits and principles of healthful living; to influence parents and other adults, through their children, to better health attitudes and habits; and so to improve the individual and community life of the future."

Copies of the revised report may be ordered from the headquarters of the National Education Association, Washington, D. C., or of the American Medical Association, Chicago.

JOHN M. DODSON, M.D.

Questions *and* Answers

Abnormal Fear of Dogs

To the Editor:—My 8 year old son has an abnormal fear of dogs. How can I help him to overcome it? H. E. W., New Jersey.

Answer.—Abnormal fears in children are such individual problems that one is not justified in laying down any general rules as to the causes or the treatment to be adopted. The only safe method to follow is to have the child studied either by a psychiatrist or at a child guidance clinic. The fear may be only a part of some general bodily weakness or it may be of mental origin—a failure in adjustment to some facts in the home or school surroundings, or possibly the result of some particular experience in which dogs and fears became associated. While it is true that many children overcome such fears as they grow older, it is greatly preferable to discover, if possible, the underlying cause and thus avoid the weakening in morale which comes from a failure that has only been dropped and has not been corrected.

Calcareous Deposits in Tonsils

To the Editor:—What causes calcareous deposits on tonsils? Physicians have diagnosed this condition in a baby girl, 1 year old. G. C. R., California.

Answer.—Calcareous deposits in the tonsils are due to a calcification; that is, the entrance of salts, mostly lime, into the food and bacterial products that fill the tonsil crypts and remain there for a considerable length of time. They really represent a stagnation of this material in the crypts. When they become large they are likely to be painful and can be the cause of intratonsillar as well as extratonsillar abscesses (quinsy). Under any of these circumstances, the tonsils should be removed.

Chroma Perimeter

To the Editor:—What is the chroma perimeter recently described in a newspaper story? S. J. C., New York.

Answer.—The apparatus in question was demonstrated before the Section of Ophthalmology of the American Medical Association at its Detroit meeting in June, 1930, and was neither accepted nor rejected by the oculists assembled. Briefly, the apparatus is merely a modification of the time honored Bjerrum screen for the recording of defects in the central fields of vision, using colored lights instead of solid targets. As this modification has been tried exhaustively abroad and finally abandoned as untrustworthy, it is questionable whether it will prove to be more than a flash in the pan.

Pupils of Unequal Size

To the Editor:—A baby girl, 5 months of age, weighing 15 pounds and to all appearances normal both mentally and physically, has pupils of unequal size. This was first noticed when the baby was 6 weeks old, by a nurse who was bathing her. When the baby was brought into a bright light, both pupils contracted to equal size; in a less diffuse light, the right pupil was slightly larger than the left. This condition remains the same, sometimes being very noticeable, at other times not discernible. No other alarming symptoms have appeared. This is the first baby in the family; the mother is 32 years old and the father is 40. Serologic findings (blood reactions) on the mother are negative. The baby's birth was normal and she weighed 9 pounds. The doctor did not notice this inequality of pupils at the child's birth and the practical nurse who assisted had not noticed it either. F. C. K., Michigan.

Answer.—It is probable that this condition will clear up spontaneously. In some cases the nerves that control the external rectus muscle of one or both eyes are undeveloped at birth with a resulting marked convergent squint. This condition clears up spontaneously. It is probable that the branch of the third nerve controlling the right pupillary sphincter is in like manner undeveloped and the tone of the muscle is lost. The pupil contracts in bright light because iris tissue is stimulated directly by light. The child should be kept under observation because of the remote possibility of an intra-ocular tumor.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed.

Cholecystokinin

To the Editor:—I wish information concerning the use of cholecystokinin for gallbladder trouble. Is this an established treatment or is it still in the experimental stage? I have been told by three doctors that I have gallbladder trouble. U. R. J., Washington.

Answer.—Cholecystokinin is a hormone formed by the intestine during digestion which in part causes gallbladder evacuation. Although it has been purified sufficiently to try out on a few human beings, it is not yet sufficiently pure to use on a large scale, which means that its use is still in the experimental stage. In the few human cases in which it was tried it was found to cause gallbladder evacuation, but was no more effective than egg yolk and cream taken by mouth. This does not mean that egg yolk and cream are advised for gallbladder disease.

Dead Nerve in Decayed Tooth

To the Editor:—Is it harmful to leave a dead nerve in a decayed tooth? G. W., California.

Answer.—It is harmful to leave a dead nerve in a decayed tooth. Even though there is no decay present, the dead nerve should be promptly removed. It is possible that a dead nerve might dry up and cause no trouble, but the risk is too great. For sooner or later it may become infected, pus will form and cause destruction of surrounding tissue and if left uncared for may cause a systemic involvement. Dead tissue left in any part of the body may be a menace.

To Remove Blackheads

To the Editor:—Where can I buy a comedone extractor, the instrument used for removing blackheads? C. S. M., Connecticut.

Answer.—A comedone extractor can be procured from any surgical house and from many druggists. It is nothing but a little metal cylinder on the end of a handle, arranged so that when the comedone is placed in the center of the cylinder and pressure on the skin is applied with the handle around the orifice of the duct, the plug is forced out. An old-fashioned watch key is often used for the same purpose.

Cause of Boils; Conversion of Starch into Sugar

To the Editor:—I was informed that the cause of boils (sugar in the blood) was discovered about two and a half years ago. I should like the names of the physicians who made the discovery, the circumstances under which the discovery was made, and any data concerning it. I should like some reliable authority for the generally accepted belief that starch is converted into sugar during the digestive process in the stomach. P. D., New Jersey.

Answer.—It has long been known that boils are infections of the skin, and are especially likely to occur in persons with diabetes. In some of these patients boils lead to serious results.

Starch is converted into sugar not in the stomach, but first to a limited extent in the mouth by the ferment ptyalin which occurs in the saliva; second, by starch ferment, called amylopsin, secreted by the pancreas and coming in contact with the food in the small intestines. The facts about these digestive processes can be found in any textbook on physiology.

Viosterol

To the Editor:—What is this Viosterol 5D? Possibly it is a newly coined word.

H. W. S., Minnesota.

Answer.—Viosterol 5D is explained by a paragraph in the latest edition of "New and Nonofficial Remedies," in which viosterol is discussed. Viosterol in general is defined as follows:

"Investigators working with the various sterols discovered that ergosterol (originally derived from ergot but now obtained from other substances, mainly yeast) in crystalline form or in solution, when subjected to ultraviolet radiation develops an antirachitic (vitamin D) potency enormously greater than that of cod liver oil. For therapeutic use the ergosterol after irradiation is usually dissolved in a vegetable oil. The Council has adopted the term viosterol to designate irradiated ergosterol and viosterol in oil to designate a preparation containing this substance dissolved in oil. The Council has also provisionally adopted the qualifying phrases 100D, 5D, etc., to designate the vitamin D potency of the various preparations as multiples of the vitamin D potency of good cod liver oil. The potency of viosterol preparation is measured by the methods used for determining the vitamin D potency of cod liver oil.

"Viosterol is for use in prophylaxis and treatment of rickets and, experimentally, in other conditions arising from faulty calcium and phosphorus assimilation. It should be borne in mind that viosterol does not contain vitamin A and that harm from hypercalcemia may result from the use of too large doses of the substance."

Viosterol in oil 100D is standardized by comparison with a potent cod liver oil containing in each 0.75 mg. 1 rat unit of vitamin D, the rat unit being defined as that amount of vitamin D which, when uniformly distributed into the standard vitamin D deficient diet, will produce a narrow and continuous line of calcium deposits in the distal ends of the radii and ulnae of standard rachitic rats.

Viosterol is a newly coined word. It was adopted by the Council on Pharmacy and Chemistry of the American Medical Association last autumn, and some of the manufacturers which had adopted other names for the same article have fallen into line and designate these preparations as viosterol.

Deposit on Teeth

To the Editor:—From where does the deposit that is found on the teeth under the gums come? I was informed by a dentist that this comes from the blood in part. When a nerve in a tooth dies and an abscess is formed, from where do the pus-producing germs come? How do they get to the seat of the abscess?

A. C., Missouri.

Answer.—The deposit found under the gums comes mostly from the blood; that found on the exposed surfaces of the teeth comes mostly from the saliva. When the pulp (nerve) of a tooth dies it quickly decomposes. The pulp canal in the root of the tooth becomes filled with pus-producing bacteria and these cause the abscess at the root end.

Flatfoot

To the Editor:—I have a little son, 3 years old, with flatfoot. He has been wearing special shoes, but they slip up and down at the heels, are uncomfortable and cumbersome. Should a child with flatfoot ever go barefoot?

J. H. S., Louisiana.

Answer.—Parental diagnosis of flatfoot is not always safe, as low arches are the rule in children and just how much lowering of the arch constitutes flatfoot is often a matter of judgment based upon experience with children's feet. The best shoe is often unable to correct a real defect of the foot. We cannot recommend special shoes with such limited knowledge of the condition. So is the question of going barefoot dependent on the real condition of the foot. All these questions could be answered more intelligently after an examination of the child's foot.

Recreation During School Hours

To the Editor:—Please tell me the approximate amount of time a sixth grade child should have for recreation out of his six hours in school? J. F., California.

Answer.—This question presents a somewhat complex situation owing to the different types of ages to be considered for each child indivIdually.

First, there is a chronologic age, measured in terms of years and months. Second, the mental age, as determined by an intelligence test, represents the degree of acceleration or retardation in relation to grade placement. The chronologic age of the average child in grade 6 is from 11 to 13 years. Now the factor of greatest concern is the physiologic age (growth and development), which may differ markedly from either the chronologic or mental age.

There are thirty-six states with laws relating to the teaching of physical education in public schools. Several of these laws specify the minimum amount of time that shall be devoted to physical activity; the range is from 60 minutes per week in Illinois to 180 minutes per week in Wisconsin. Clark Hetherington, formerly professor of physical education at New York University, gives as his opinion that children with a chronologic age of 11, 12 and 13 should have 5⅔, 5 and 4½ hours respectively of big muscle activity daily. It is obvious that this amount of time cannot be crowded into the school day; hence, activities must be taught in school that will carry over to the program of after-school recreation.

Diet in Tuberculosis

To the Editor:—Would it be possible for you to make out a list of foods necessary for a convalescent tuberculosis patient who is unable to drink milk and eat eggs? He has the complication of asthma and is affected if he eats anything containing milk or eggs. This has made choosing nourishing, fattening foods a difficult problem, and he does not gain in weight. M. L., Washington.

Answer.—It is advisable to allow the patient to select any foods which his experience has shown that he can digest. Persons in the advanced stages of tuberculosis often fail to gain in weight on any diet to any great degree. Milk and eggs are not essential to a proper diet in the treatment of tuberculosis, nor is weight increase always indicative of improvement. The important factors are absence of cough and expectoration, absence of fever and fast pulse, with general physical improvement.

Asthma

To the Editor:—Do you know of a safe asthma cure?

R. A. B., Illinois.

Answer.—The only safe cure for asthma is to find the cause and to remove it. Sometimes it is an offending substance like the pollen of certain plants or the effluvium from certain animals such as cats and horses. The remedy consists in avoiding these as completely as possible or in having oneself desensitized to the obnoxious substance. Asthma is not an infrequent symptom of disease of the heart, disease of the kidneys or disease of the lungs, and in such cases if the original cause can be corrected, the asthma is cured. This is possible only in certain cases. As to a remedy that will cure attacks of asthma, such as the sedatives of one sort or another, or adrenalin or ephedrine, we know of none which could be continued indefinitely without any danger of forming a habit or of some other undesirable sequel.

An interesting book on this subject for the lay reader is "Asthma and Hay-Fever" by Dr. R. M. Balyeat, published by F. A. Davis, Philadelphia, and priced at $2.

Hemorrhoids

To the Editor:—Could you give me some good general suggestions concerning bleeding piles? Do you think this condition will injure my general health?

H. C. C., Oklahoma.

Answer.—It is impossible to advise intelligently about hemorrhoids in the absence of a personal examination. Palliative treatment, consisting of attention to the bowels, and the local application of salves and the like, keeps many patients comfortable, but if the trouble becomes at all severe, operation for the removal of the piles is to be advised. The best thing to do is to place oneself under the care of a reliable physician.

Renal Tuberculosis

To the Editor:—In case of tuberculosis of the kidneys what is the reaction on other organs? How might it affect them? Would it undermine them so that secretions would not function properly?

G. P., Illinois.

Answer.—Tuberculosis of the kidney is in most cases secondary to tuberculosis in some other structure. Either one or both kidneys may be involved. The effect of this condition in the kidney on other organs is the same as the effect of any disease condition of the kidney which interferes with its function.

Primary tuberculosis of the kidney is rare. It is almost always associated with tuberculosis of the pelvis of the kidney and usually with that of the bladder. In such cases it is difficult to say oftentimes whether the primary focus was in the bladder, prostate or vesicles, or whether it started in the kidney as the first site of infection.

Tuberculosis of the kidney usually takes the form of an inflammation of that organ and its pelvis, attended with the formation of pus. Necrosis and caseation often follow.

Cancer of the Mouth

To the Editor:—My father has an obstinate cancer in his mouth on the jaw bone and at present is taking his second radium and x-ray treatment. He takes his noonday meal at our house, using our towels and dishes. I have been taking his dishes from the table and putting them in a solution of extremely hot water and a disinfectant for a short period before I wash them with my own family's dishes. Is it necessary to do this? Somehow I cannot bear to wash his dishes with our own. I have a separate drinking cup at the well for him.

A. P., Illinois.

Answer.—Cancer is, as far as we know, not a contagious disease, but in the interest of cleanliness the inquirer is doing the right thing in having her father use eating utensils that are kept apart from those used by other members of the household, or sterilized by boiling water after they are washed with soap and water. Any powerful disinfectant such as phenol can be used, provided it is thoroughly rinsed off after using.

Food Value of Cereals, White Bread

To the Editor:—I am very fond of shredded whole wheat biscuits and cream for breakfast. The package says "nothing added and nothing taken away." A friend of mine tells me that it is worthless as a food and that other breakfast foods are likewise worthless. He says that these products used to be good, but that the manufacturers nearly went bankrupt on account of the worms getting into them. Now he says that to prevent worms they killed all the food value. He further tells me that white bread is worthless as a food; in fact that it is harmful. I spoke to a miller about this, and he said that it is true that there is not much food value left in white flour.

D. J. S., Washington.

Answer.—Shredded wheat biscuits are entirely wholesome, as are practically all other breakfast foods on the market, although the cost of some of them in ratio to their nutritive value is high. It is true that if some of them stand too long on the shelves they become infested with worms. We have never known that to happen, however, with shredded wheat biscuits, as sometimes occurs with other breakfast foods such as corn meal, oatmeal and the like. The food value of shredded wheat biscuits is exactly the same as that of the whole grain wheat of which it is made.

White bread is one of the most valuable of all foods. It is true that whole wheat bread and graham bread, containing as they do, some of the bran as well as the germ of the wheat, have certain ingredients in the way of vitamins and roughage which are essential. If the bread were the sole article of diet it would be a serious loss not to have in the bread these portions of the wheat, but the properties which they possess are obtained in abundance from milk, vegetables, fruit, eggs, and other foods that enter into the diet of normal persons.

White bread is much more to the taste of most persons than are the coarser breads, and as a part of a mixed diet there is no reason why it should be replaced with whole wheat or graham bread, unless one prefers the taste of other varieties. White flour keeps better than whole wheat flour.

Goiter

To the Editor:—What is meant by "simple enlargement of the thyroid gland"? Does this result in goiter? What is the method of treating this condition? What are the dangers of neglecting it?

G. P., Pennsylvania.

Answer.—Any enlargement of the thyroid gland is a goiter. Whether or not goiter in a particular individual needs treatment is a question that can be answered only after a personal examination and careful study of the conditions present. Many persons go through life with a goiter often of some size without suffering any ill effects, except in appearance. Goiters, either small or large, when there is excessive elaboration of the thyroid secretion, produce symptoms which necessitate treatment and sometimes removal of the gland.

Water on the Knee

To the Editor:—What is meant by "water on the knee"? What are the causes and symptoms?

S. L., Tennessee.

Answer.—"Water on the knee" is simply an accumulation of fluid beyond the normal amount in and about the knee. It often occurs after a wrench or sprain of the knee or in connection with certain inflammations; for example, tuberculosis. In the case of trouble from a sprain the fluid usually disappears with proper treatment without operation.

Rheumatism

To the Editor:—What foods contain silicon? What causes rheumatism? Are the kidneys the principal cause? I am a man in middle age. The past few months I have had twinges of rheumatism, of the wandering kind, first in the muscles and sometimes in the joints. For many years I have taken exercises in my room every morning. I walk 5 or 6 miles each day. I eat two meals daily, lunch and dinner. My appetite is good. I eat much fruit. Would too much food cause this acid condition which brings on rheumatic symptoms? It is not caused by eating meat as I seldom eat meat, not once a week.

S. P. K., District of Columbia.

Answer.—Silicon is contained in many vegetables and is found in the food, in the hair and in the desquamated epithelium. The part which it plays in the body processes is unknown.

Rheumatism is quite certainly a disease caused by germs, or microbes, but whether to one or several different species is a matter of dispute. The kidneys are not the cause of rheumatism although they may play a part in it. Rheumatism attacks a good many persons in spite of the best hygiene and good habits. It is always well to avoid excessive food, especially in rheumatism. In many cases a moderate amount of meat does not seem to aggravate this trouble, but all foods should be reduced to the lowest amount possible to enable one to do his work and live comfortably.

Removal of Ovary

To the Editor:—Is the function of the endocrines seriously impaired following removal of the uterus, left tube and ovary at the age of 26? The right ovary is supposed to be still present, though said to have "grown over" upon itself as a result of an appendectomy twelve years ago. Is that ovary valuable in helping to maintain proper endocrine balance? If not, are great overweight, nervous and emotional disturbances and other undesirable conditions to be expected? I should greatly appreciate additional information and advice concerning the outcome of such an operation.

A. J., New York.

Answer.—The removal of one ovary when the other is left intact is seldom followed by any disturbances that can be attributed to the lack of internal secretion of the ovary. Removal of both ovaries is followed by a cessation of menstruation which is attended by the same symptoms that occur at the menopause. The fact that the ovary is involved in adhesions following an operation for appendicitis would probably not interfere with its elaboration of the internal secretion. If menstruation is normal, it is evident that some ovarian tissue is functioning.

To what degree ovarian secretion is responsible for the normal action of the other endocrine glands is not fully known. In this connection the inquirer might be interested in an article which appears in "New and Nonofficial Remedies," a publication of the Council on Pharmacy and Chemistry of the American Medical Association, discussing ovarian substance.

Sanatoriums, Good and Bad

To the Editor:—My sister and I have been trying to find a sanatorium, to which we might go, where surgery and medicine are not advocated, but where physiotherapy treatments are scientifically administered; that is, massage, spinal manipulations, special diets and rest. We have been in correspondence with several institutions of this type, but they make such broad claims as to the beneficial results one could obtain by coming to their institution that we do not know which one would be the best, and we do not want to be fooled again. We are wondering if you could help us out.

I. G., New York.

Answer.—We know of no sanatorium which we could recommend that does not advise surgery or drugs when they are necessary. It would be most unwise to send any patient to such an institution. The most important asset of any sanatorium for the treatment of the sick is a staff of thoroughly competent, skilled and conscientious physicians, who are able to make accurate and thorough observations of the patient, a correct diagnosis, and to advise what is the best method of treatment. Often this includes methods of physical therapy, such as massage, passive movement and rest, but, in some cases, drugs may be indicated, and in other cases surgical measures are necessary. The physician in charge of the patient should be competent to determine which of these are indicated and must, if he is conscientious in the performance of his duty, advise such measures.

Any institution that advertises to cure illness by special methods and urges patients to patronize it is decidedly of the sort to be avoided.

Multiple Sclerosis

To the Editor:—Is multiple sclerosis hereditary or contagious? What is the usual cause of such disease? M. G., New York.

Answer.—Multiple sclerosis is not contagious. There may be some slight hereditary element, but that is unsettled. The cause of the disease is unknown, though it sometimes follows one of the infectious diseases, fatigue, cold, exposure and intoxications, such as that from lead. It is most common in young persons between the ages of 15 and 30, and is more frequent in girls. Syphilis plays no part, though cerebrospinal syphilis may present many of the symptoms of multiple sclerosis at one time or another.

Tapeworm

To the Editor:—Is it possible to tell by an x-ray picture if one has worms? What other ways might one tell if these parasites are present? Is the treatment for worms hard on one infested with them? Would you advise treatment without any sign of tapeworm? H. E. J., Indiana.

Answer.—There is no way in which x-ray pictures could reveal the presence of worms in the intestines. The x-ray simply shows shadows of denser material in contrast with the less dense matter with which it is associated.

Worms are of much the same composition and same density as are human tissues. The only way to determine the presence of tapeworm or any other kind of worms is to watch the stools carefully. Segments are certain to be passed if tapeworm is present and these, of course, are conclusive evidence that the individual is harboring such a parasite.

The treatment for tapeworms requires only a day or so at the most and is not particularly hard on the patient. We should certainly not advise one to take treatment for tapeworms unless it is certain that the individual is so infested.

Colitis

To the Editor:—Are colitis and colonitis the same ailment? From what does colonitis usually come? Is there a permanent cure for it? If under the care of a specialist how long does it persist?

W. G., New Jersey.

Answer.—Colitis and colonitis mean the same thing. The disease may involve any part or all of the colon which passes up on the right side from the region of the appendix to just under the liver, crosses over to the left side and down into the pelvis, where it is continued into the sigmoid flexure and the rectum. It may or may not be associated with appendicitis.

The causes of colitis are various. Sometimes it is due to an infection, sometimes to injury or other causes. Some cases yield readily to treatment, while others are rebellious. No one can give intelligent advice in a case like this in the absence of a personal examination.